

OLIO 2024 PRODUCT  
**PRODUCT PORTFOLIO**  
RODUCT **PORTFOLIO**

# Hanwha Group

Hanwha will continue to embrace bold challenges for a sustainable tomorrow.

Founded in 1952, **Hanwha** continues to grow by quickly anticipating and responding to rapidly changing business environments with a balanced business portfolio that includes aerospace, energy & materials, finance and retail & services. As of 2022, we are the seventh largest business enterprise in South Korea and a Fortune Global 500 company. Hanwha has become a global leader in a number of industries due to its culture of innovation, focused on breakthrough technologies, and sound financial structures.

Sales  
2022

**65.3** USD  
Billions

Years of History  
Founded in 1952

**71**

Domestic affiliates  
As of end of June 2022

**91**

Business Enterprise in  
South Korea

Total asset basis, as of end of 2022

**TOP 7**

Ranking on Fortune  
Global 500 in 2023

**296**

Global Networks  
As of end of 2022

**710**

Hanwha delivers energy to customers to make  
our future  
more vibrant and sustainable.



## History

- 2023.03** – Changed company name to 'Hanwha Vision' Announced focus on becoming a vision solution provider
- 2022** – Launched IP audio system
- 2021** – Launched the X AI camera series
  - Launched AI NVR and AI integrated solution
  - Developed AI-based infectious disease response solutions
- 2020** – 30th anniversary of the video security business
  - Launched the P AI camera series
  - Launched Winsenet 7 SoC, a camera series with Wisenet 7 SoC acquired UL CAP (UL Cybersecurity Assurance Program)
- 2019** – UK Government official cybersecurity certification
  - Acquired 'Secure by Default'
  - Launched the world's first 55x IR PTZ camera
- 2018** – Established Hanwha Techwin Vietnam manufacturing corporation
- 2017** – Wisenet 5 SoC and X camera series launched
  - Acquired CES, a UK Government cyber security certification

- 2016** – Establishment of Hanwha Techwin Middle East FZE
- 2015** – Launched Hanwha Techwin
- 2013** – Wisenet 3 SoC and camera series with Wisenet 3 SoC are launched
- 2012** – Launched the world's first 37x IR PTZ camera
- 2009** – Establishment of Hanwha Techwin Tianjin and Shanghai
- 2008** – Launched the world's first 37x PTZ camera
- 2005** – Developed advanced intruder automatic location tracking system
- 2004** – Developed Winner 3 Analog ISP chip
- 2001** – Establishment of Hanwha Techwin Europe
- 1997** – Launched the world's best ultra-low illumination video surveillance camera
  - Developed Korea's first Auto Iris lens for CCTV
- 1993** – Started video surveillance business, establishment of
- 1990** – Hanwha Techwin America

# Hanwha Vision

**'Hanwha Vision' will become your vision partner who realizes a sustainable future and provides new values.**

Over the past 30 years, we have established ourselves as a global video security specialist based on world-class optical design, manufacturing, and image processing technology.

We have been ensuring safety and security around the world and across society with products and solutions with outstanding performance, high reliability, and industry-leading cybersecurity policies.

Our growth and innovation started with our customers' needs. This began with their desire to improve safety and security, now evolving to answer wider business opportunities and challenges. Ultimately, all our solutions enable our customers to reach their goals.

Our investment in innovation and continually pushing the boundaries of what's possible in video is core to our competitiveness, ensuring our steady success in vision solutions.







# CORE COMPETENCIES

Strengthening our technological competitiveness based on vision technology, AI and cybersecurity.

Hanwha Vision has core competitiveness in vision technology based on optical and image processing technology accumulated over 30 years. As image processing technology through AI has become popular, currently, what matters more is how to process information to create valuable information. In response, Hanwha Vision plans to provide valuable information in various fields through technology conversion and expansion through AI capabilities and a cloud platform.

Also, we will continue to enhance our competitiveness in cybersecurity.



## Vision technology

Hanwha Vision provides high-quality image and vision information through world-class optical and image processing technology.



## AI-based intelligent analysis

Hanwha Vision offers AI-based intelligent solutions through self-developed analytics algorithms while providing optimized information to customers by efficiently analyzing vast amounts of data.



## Cybersecurity

Hanwha Vision conducts regular security management under the leadership of S-CERT (a dedicated security emergency response team). Hanwha Vision has been selected as an international CVE program CNA organization to manage program vulnerabilities. In addition, we have obtained numerous cybersecurity certifications from renowned global certification such as UL CAP, FIPS, TTA and more.

# R&D POWER

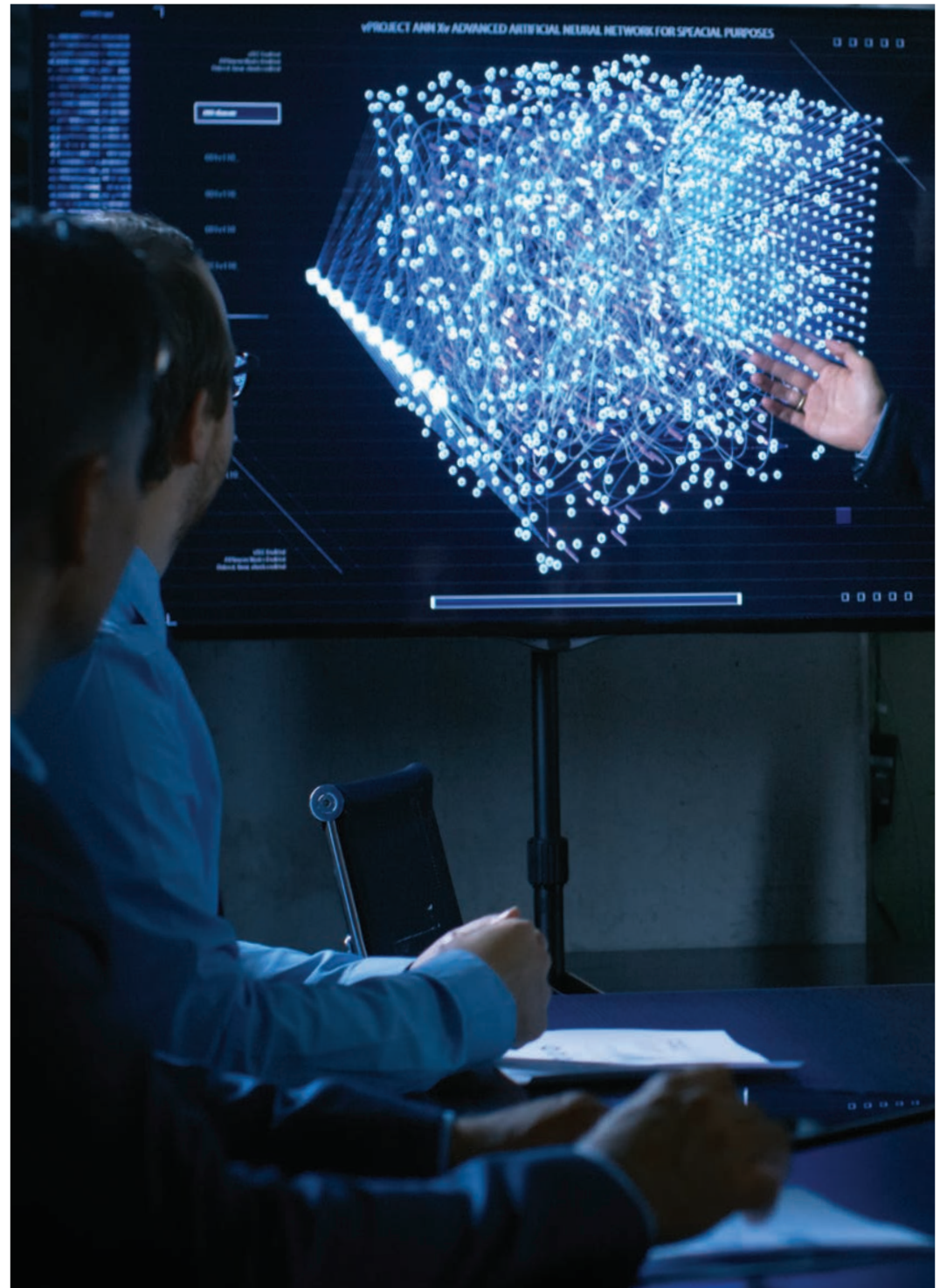
Hanwha Vision continues to accelerate research and development efforts to sustain its competitive edge.

The R&D headquarters, located in Pangyo Techno Valley, Gyeonggi-do, is the central hub of Hanwha Vision's global R&D. Here, we develop and test various vision technology solutions before introducing them commercially.

In 2022, Hanwha Vision established an Innovation Center in the US, with the goal of developing key innovations for the future, such as AI and cloud. Eventually we see these becoming Hanwha Vision's core strengths.

Alongside these efforts, we have established a global AI R&D organization across our headquarters, the US R&D Center, and our AI data lab. This secures our AI full stack capabilities, from AI strategy to data processing, commercialization, and future development.

This accelerates our R&D to give Hanwha Vision sustainable competitiveness in an ever-changing market.

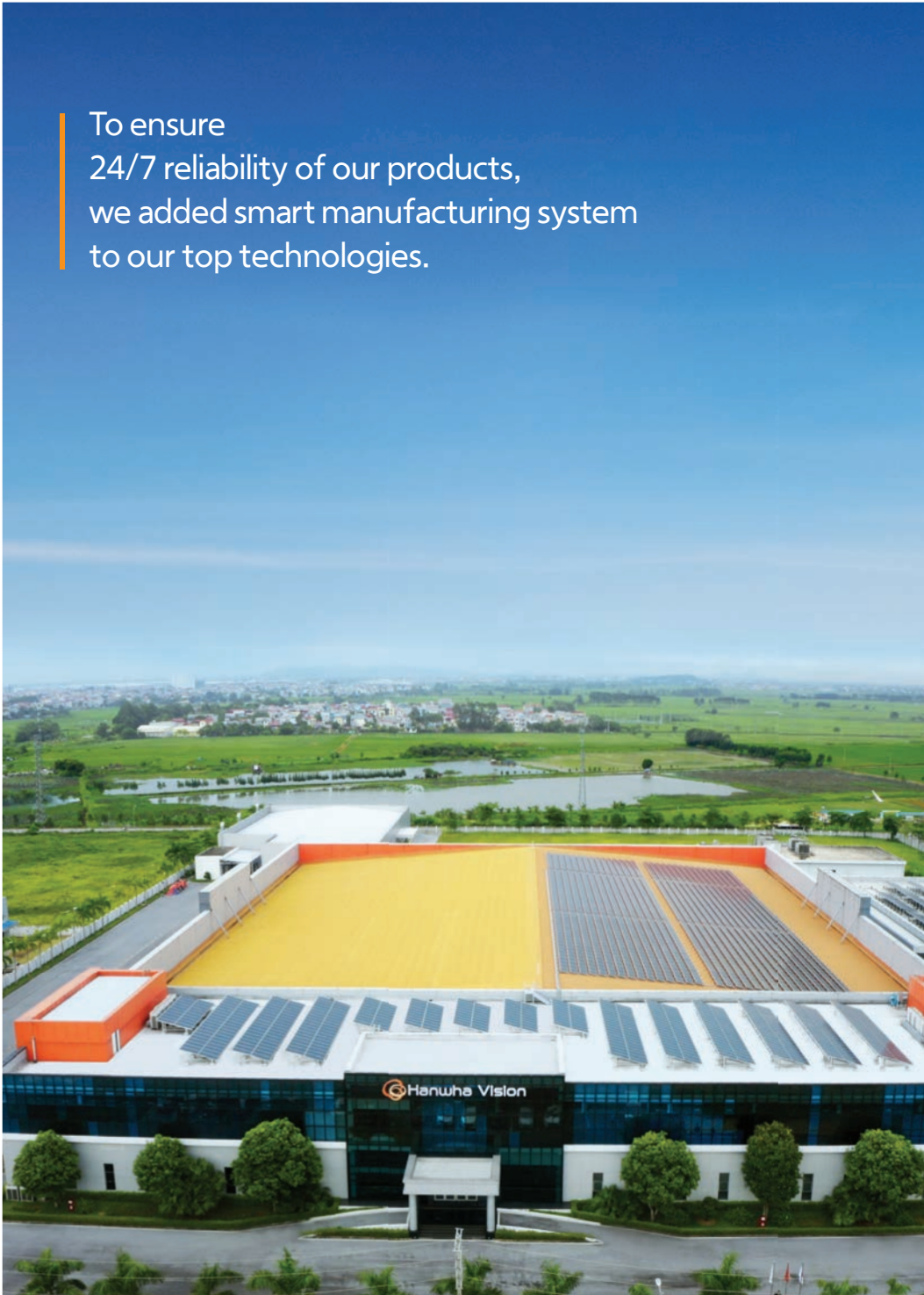




To ensure  
24/7 reliability of our products,  
we added smart manufacturing system  
to our top technologies.

## HIGH-TECH POWERED IN VIETNAM

Hanwha Vision's manufacturing subsidiary in Vietnam (HVV) has been in operation since 2018 in order to expand its global production capability as well as to strengthen cost competitiveness. Through automation and smart systems, Hanwha Vision has built sophisticated and fast-moving manufacturing lines producing all its product line-ups including cameras and storage devices. All products produced in HVV go through a reliable manufacturing and quality assurance process and sold globally.



# END-TO-END CYBERSECURITY

Hanwha Vision offers cybersecurity with the industry's highest levels of cybersecurity policy with secure boot/OS/storage, a signed firmware/open platform app, secure JTAG and more.

Hanwha Vision established its own device certificate issuing system to embed certificates into the product not only in the development progress but also in the manufacturing progress.



- Hanwha Vision Private Device Certification Root CA
- UL CAP, TPM 2.0 (FIPS 140-2)
- Secure Boot, Secure Storage, Secure OS
- Secure Open Platform
- S-CERT : Security Computer Emergency Response Team  
Please contact S-CERT by e-mail ([secure.cctv@hanwha.com](mailto:secure.cctv@hanwha.com))

※ Please ask your local representative for UL CAP, TPM 2.0 applied products

## Next level Cybersecurity







# GLOBAL NETWORK

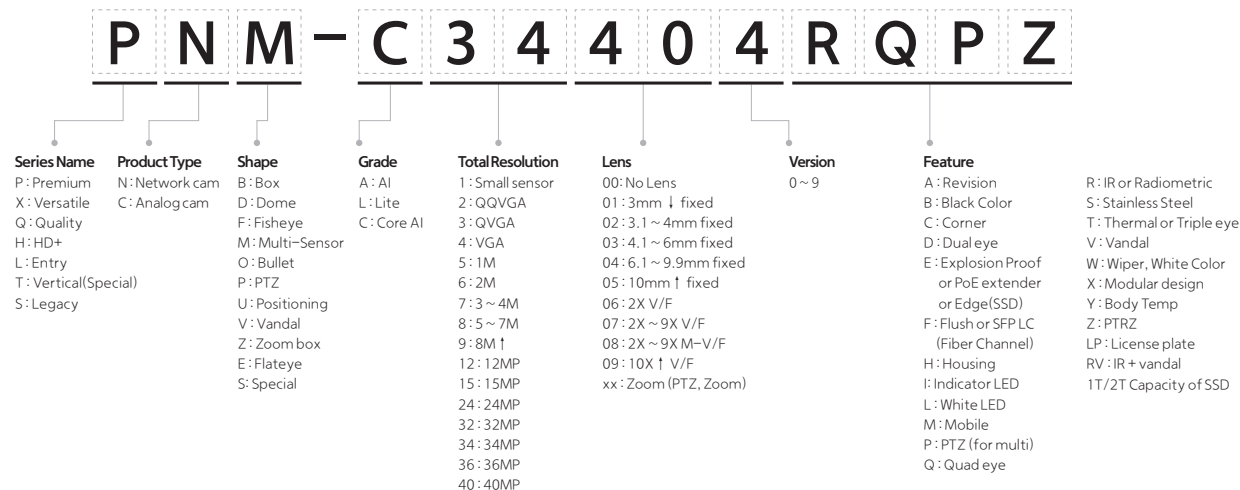
Hanwha Vision has a close relationship with customers and partners around the world across R&D, manufacturing and sales.

- Hanwha Vision R&D Center (HQ, South Korea)
- 5 Global Subsidiaries (including Vietnam Manufacturing)
- 11 Branch Offices
- 1 Innovation Center

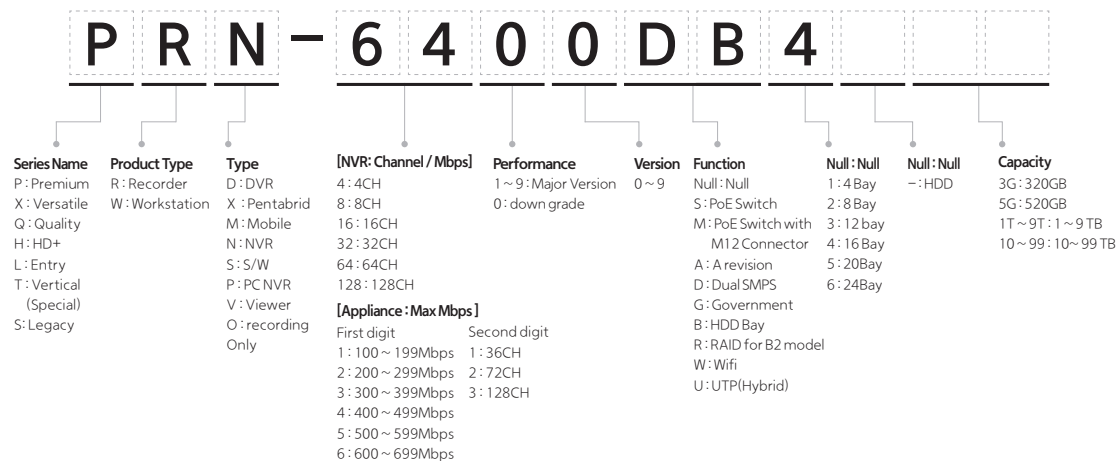


# PRODUCT NAMING RULE

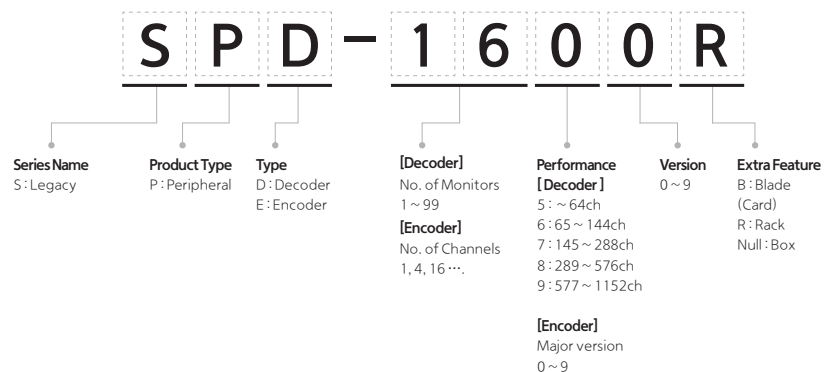
## Camera



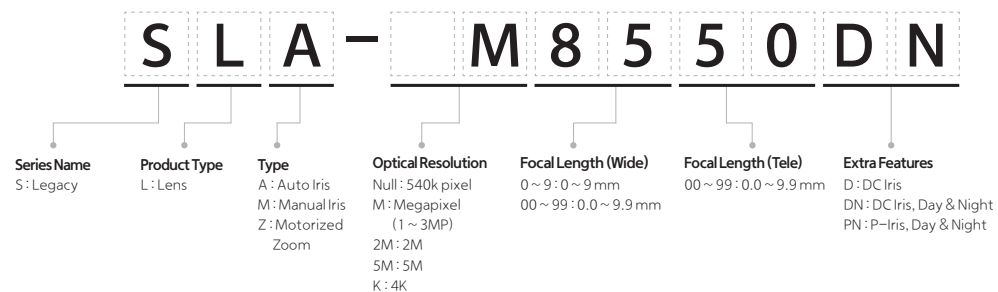
## Recorder



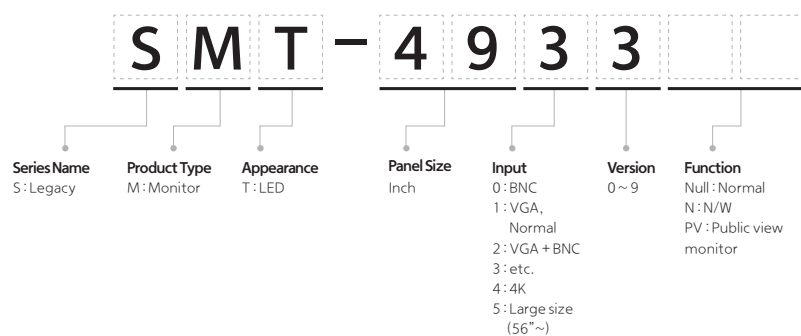
## Decoder/Encoder



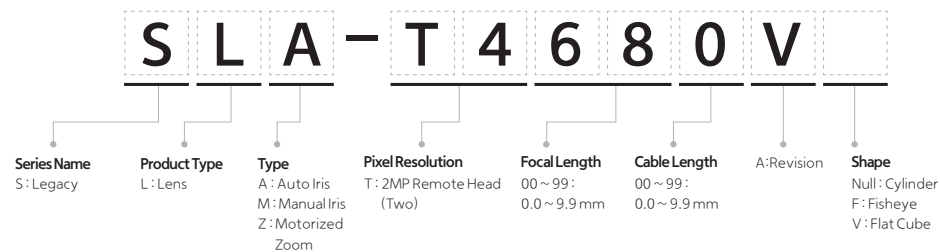
## Lens : CS Mount



## Monitor



## Lens : Remote Head





## NETWORK

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### Camera

AI Cameras

X series

P series

Q series

T series

### NVR

Encoder / Decoder

### VMS

IP Audio Management System

## ANALOG

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### Camera

### DVR

## PERIPHERAL

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Monitor

Controller

Lens

## INSTALLATION SOLUTION

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Toolbox Plus

LINE UP 2024

2024 LINE UP

X Plus


**XNO-9083R**  
 8MP AI IR Bullet Camera

X Plus


**XNV-9083R**  
 8MP AI IR Vandal Dome Camera

X Plus


**XNV-9083RZ**  
 8MP AI IR PTRZ Dome Camera

X Plus


**XND-9083RV**  
 8MP AI IR Dome Camera

X Plus


**XNB-9003**  
 8MP AI Box Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Resolution / Max. Frame Rate      | 8MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Min. Illumination                 | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                    | Color: 0.03Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                   | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                    | Color: 0.03Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.2, 1/30sec, 30IRE)                                                        |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                             | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | —                                                                                                                                | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation |
| Focal Length (Zoom Ratio)         | 4.4~9.3mm(2.1x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   | —                                                                                                                                 |
| Angular Field of View             | H: 112.1° (Wide) ~ 47.5° (Tele)<br>V: 58° (Wide) ~ 26.6° (Tele)<br>D: 137.5° (Wide) ~ 54.6° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                            | H: 112.1° (Wide) ~ 47.5° (Tele)<br>V: 58° (Wide) ~ 26.6° (Tele)<br>D: 137.5° (Wide) ~ 54.6° (Tele)                                | H: 113° (Wide) ~ 47° (Tele)<br>V: 58° (Wide) ~ 26° (Tele)<br>D: 138° (Wide) ~ 54° (Tele)                                         | H: 112.1° (Wide) ~ 47.5° (Tele)<br>V: 58° (Wide) ~ 26.6° (Tele)<br>D: 137.5° (Wide) ~ 54.6° (Tele)                                | —                                                                                                                                 |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~90° / 0°~360°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0°~360° / 0°~85° / 0°~355°                                                                                                        | Remote adjustment(Max. 200cycles)<br>0°~350° / 0°~85° / 0°~340°                                                                  | 0°~360° / 0°~85° / 0°~355°                                                                                                        | —                                                                                                                                 |
| IR Viewable Length                | WiseIR 50m (164.04ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | WiseIR 50m (164.04ft)                                                                                                             | 15m (49.21ft)<br>30m (98.43ft) based on scene                                                                                    | WiseIR 50m (164.04ft)                                                                                                             | —                                                                                                                                 |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type:car/bus/truck/motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br><b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear) |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Business Intelligence             | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                         | Based on AI engine: People/Vehicle counting                                                                                      | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                         | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                         |
| Alarm I/O                         | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                            | —                                                                                                                                | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                            | 2 configurable I/O ports                                                                                                          |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Selectable (mic in/line in) / Line out                                                                                            | —                                                                                                                                | Selectable (mic in/line in/built-in mic) /<br>Line out                                                                            | Selectable (mic in/line in/built-in mic) /<br>Line out                                                                            |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| WiseStream                        | Manual(Sea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Edge Storage                      | micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |
| Operating Temperature / Humidity  | -50°C~+55°C(-58°F~+131°F)<br>+74°C(+165°F)(Max)<br>based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                           | -50°C~+55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent  | -50°C~+55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent | -25°C~+50°C(-13°F~+122°F) /<br>0~100% RH(condensing)<br>Humidity control with AIR vent                                            | -10°C~+55°C(-14°F~+131°F) /<br>0~95% RH(non-condensing)                                                                           |
| Certification                     | IP66, IP67, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IP66, IP67, IP6K9K, NEMA4X, IK10+                                                                                                 | IP66, IP67, IP6K9K, NEMA4X, IK10+                                                                                                | IP52, IK10                                                                                                                        | —                                                                                                                                 |
| Power Consumption                 | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                                                                                                                                                                                                                                                                                                                                                                                                                  | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                      | PoE+: Max 22.5W, typical 12.1W                                                                                                   | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                      | PoE: Max 12.95W, typical 9.8W<br>12VDC: Max 19W, typical 9.5W                                                                     |
| Product Dimensions / Weight       | ø93.4x298.4mm(ø3.68x11.75"),<br>2200g(4.85 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ø180x125mm(ø7.09x4.92"),<br>1900g(4.19 lb)                                                                                        | ø180x135mm(ø7.09x5.31"),<br>2000g(4.41 lb)                                                                                       | ø160x125mm(ø6.30x4.92"),<br>1600g(3.53 lb)                                                                                        | 81(W)x67(H)x165(D)mm(3.19x2.64x6.48"),<br>880g(1.94 lb)                                                                           |



X Plus


**XNV-8093R**  
6MP AI IR Vandal Dome Camera

X Plus


**XND-8093RV**  
6MP AI IR Dome Camera

X Plus


**XNO-8083R**  
6MP AI IR Bullet Camera

X Plus


**XNV-8083R**  
6MP AI IR Vandal Dome Camera

X Plus


**XNV-8083RZ**  
6MP AI IR Vandal Dome Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Resolution / Max. Frame Rate      | 6MP/30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Min. Illumination                 | Color: 0.06Lux(F1.7, 1/30sec, 30IRE)<br>BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                    | Color: 0.06Lux(F1.7, 1/30sec, 30IRE)<br>BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)   | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                         | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)                                      | Color: 0.03Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)                                      |
| Video Out                         | CVBS: 1.0Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  | -                                                                                                                                |
| Focal Length (Zoom Ratio)         | 10.9~29mm(2.7x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10.9~29mm(2.7x) motorized varifocal                                                           | 4.4~9.3mm(2.1x) motorized varifocal                                                                                                                                                 | 4.4~9.3mm(2.1x) motorized varifocal                                                                                              | 4.4~9.3mm(2.1x) motorized varifocal                                                                                              |
| Angular Field of View             | H: 42° (Wide) ~ 15° (Tele)<br>V: 22.8° (Wide) ~ 8.4° (Tele)<br>D: 48.7° (Wide) ~ 17.1° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                  | H: 42° (Wide) ~ 15° (Tele)<br>V: 22.8° (Wide) ~ 8.4° (Tele)<br>D: 48.7° (Wide) ~ 17.1° (Tele) | H: 112.1° (Wide) ~ 47.5° (Tele)<br>V: 58° (Wide) ~ 26.6° (Tele)<br>D: 137.5° (Wide) ~ 54.6° (Tele)                                                                                  | H: 112.1° (Wide) ~ 47.5° (Tele)<br>V: 58° (Wide) ~ 26.6° (Tele)<br>D: 137.5° (Wide) ~ 54.6° (Tele)                               | H: 113° (Wide) ~ 47° (Tele)<br>V: 58° (Wide) ~ 26° (Tele)<br>D: 138° (Wide) ~ 54° (Tele)                                         |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~85° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0°~360° / 0°~85° / 0°~355°                                                                    | 0°~360° / 0°~90° / 0°~360°                                                                                                                                                          | 0°~360° / 0°~85° / 0°~355°                                                                                                       | Remote adjustment(Max. 200cycles)<br>0°~350° / 0°~85° / 0°~340°                                                                  |
| IR Viewable Length                | WiseIR 70m (229.66ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WiseIR 70m (229.66ft)                                                                         | WiseIR 50m (164.04ft)                                                                                                                                                               | WiseIR 50m (164.04ft)                                                                                                            | 15m (49.21ft), 30m (98.43ft) based on scene                                                                                      |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br><b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear) |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Business Intelligence             | Based on AI engine: People/Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  | Based on AI engine: People/Vehicle counting                                                                                      |
| Alarm I/O                         | 2 configurable I/O ports, DC 12V output (Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  | -                                                                                                                                |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Selectable (mic in/line in/built-in mic) / Line out                                           | Selectable (mic in/line in) / Line out                                                                                                                                              | Selectable (mic in/line in) / Line out                                                                                           | -                                                                                                                                |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| WiseStream                        | Manual(5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Edge Storage                      | micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                               |                                                                                                                                                                                     |                                                                                                                                  |                                                                                                                                  |
| Operating Temperature / Humidity  | -50°C~-55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                               | -25°C~+50°C(-13°F~+122°F) /<br>0~100% RH(condensing)<br>Humidity control with AIR vent        | -50°C~+55°C(-58°F~+131°F)<br>+74°C(+165°F)(Max) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent | -50°C~-55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent | -50°C~-55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100% RH(condensing)<br>Humidity control with AIR vent |
| Certification                     | IP66, IP67, IP6K9K, NEMA4X, IK 10+                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IP52, IK 10                                                                                   | IP66, IP67, NEMA4X, IK 10                                                                                                                                                           | IP66, IP67, IP6K9K, NEMA4X, IK 10+                                                                                               | IP66, IP67, IP6K9K, NEMA4X, IK 10+                                                                                               |
| Power Consumption                 | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                                                                                                                                                                                                                                                                                                                                                                                                                   | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover  | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                                                                        | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                     | PoE+: Max 22.5W, typical 12.1W                                                                                                   |
| Product Dimensions / Weight       | ø 180x125mm(ø 7.09x4.92"),<br>1900g(4.19 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ø 160x125mm(ø 6.30x4.92"),<br>1600g(3.53 lb)                                                  | ø 93.4x298.4mm(ø 3.68x11.75"),<br>2200g(4.85 lb)                                                                                                                                    | ø 180x125mm(ø 7.09x4.92"),<br>1900g(4.19 lb)                                                                                     | ø 180x135mm(ø 7.09x5.31"),<br>2000g(4.41 lb)                                                                                     |

X Plus


**XNV-8083Z**  
**6MP AI Vandal Dome Camera**

X Plus


**XND-8083RV**  
**6MP AI IR Dome Camera**

X Plus


**XNB-8003**  
**6MP AI Box Camera**

X Plus


**XNO-6123R**  
**2MP AI IR Bullet Camera**

X Plus


**XNO-6083R**  
**2MP AI IR Bullet Camera**

| Imaging Device                    | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/1.8" progressive CMOS                                                    | 1/2.8" progressive CMOS                                                                                                         | 1/2.8" progressive CMOS                                                                                                                                                         |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resolution / Max. Frame Rate      | 6MP/30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6MP/30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 6MP/30fps                                                                  | 2MP / 120fps                                                                                                                    | 2MP/120fps                                                                                                                                                                      |
| Min. Illumination                 | Color: 0.03Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.3, 1/30sec, 30IRE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                | Color: 0.03Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.2, 1/30sec, 30IRE) | Color: 0.03Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.6, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                        | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                                                                        |
| Video Out                         | CVBS: 1.0 Vp-p / 75 Ω composite, 720x480(N), 720x576(P) for installation / USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Focal Length (Zoom Ratio)         | 4.4~9.3mm(2.1x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4.4~9.3mm(2.1x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | —                                                                          | 5.2~62.4mm(12x) zoom<br>(digital 32x, total 384x zoom)                                                                          | 2.8~12mm(4.3x) motorized varifocal                                                                                                                                              |
| Angular Field of View             | H: 113° (Wide)~47° (Tele)<br>V: 58° (Wide)~26° (Tele)<br>D: 138° (Wide)~54° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H: 112.1° (Wide)~47.5° (Tele)<br>V: 58° (Wide)~26.6° (Tele)<br>D: 137.5° (Wide)~54.6° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                  | —                                                                          | H: 55° (Wide)~5° (Tele)<br>V: 35° (Wide)~3° (Tele)<br>D: 62° (Wide)~6° (Tele)                                                   | H: 119.5° (Wide)~27.9° (Tele)<br>V: 62.8° (Wide)~15.7° (Tele)<br>D: 142.1° (Wide)~32° (Tele)                                                                                    |
| Pan / Tilt / Rotate               | 0°~350° / 0°~85° / 0°~340°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0°~360°~45°~85° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | —                                                                          | —                                                                                                                               | —                                                                                                                                                                               |
| IR Viewable Length                | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | WiselR 50m (164.04ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | —                                                                          | WiselR 90m (295.28ft)                                                                                                           | WiselR 50m (164.04ft)                                                                                                                                                           |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | extremeWDR (120dB)                                                         | extremeWDR (150dB)                                                                                                              | extremeWDR (150dB)                                                                                                                                                              |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNRV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Analytics                         | <b>Classified object type:</b> Person/Face/<br>Vehicle(Type: car/bus/truck/motorcycle/<br>bicycle)/License plate<br><b>Attributes:</b> Vehicle(Type: car/bus/truck/<br>motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine</b><br>– Object detection, Virtual line(Crossing/<br>Direction), Virtual area(Loitering/Intrusion/<br>Enter/Exit), Motion detection<br><b>Analytics events</b><br>– Defocus detection, Tampering, Fog detection,<br>Virtual area(Appear/Disappear)<br>* Audio detection, Sound classification<br>(with NWI/O box SPM-4210) | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type:car/bus/truck/motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br><b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear) |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Business Intelligence             | Based on AI engine: People/Vehicle counting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap  | —                                                                                                                               | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                                                                       |
| Alarm I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2 configurable I/O ports                                                   | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                          | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                                                                          |
| Audio I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Selectable (mic in/line in/built-in mic) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Selectable (mic in/line in/built-in mic) / Line out                        | Selectable (mic in/line in) / Line out                                                                                          | Selectable (mic in/line in) / Line out                                                                                                                                          |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| WiseStream                        | Manual(5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Up to 10 profiles, 3 virtual channel support                               | Up to 10 profiles                                                                                                               | Up to 10 profiles, 3 virtual channel support                                                                                                                                    |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                                                                 |                                                                                                                                                                                 |
| Operating Temperature / Humidity  | –50°C~+55°C(–58°F~+131°F)<br>* Start up should be done at above –30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | –25°C~+50°C(–13°F~+122°F) / 0~100%<br>RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                                                        | –10°C~+55°C(–14°F~+131°F) / 0~95%<br>RH(non-condensing)                    | –40°C~+60°C(–40°F~+140°F)<br>* Start up should be done at above –30°C<br>0~100%RH(condensing)<br>Humidity control with AIR Vent | –50°C~+55°C(–58°F~+131°F)+74°C(+165°F)<br>(Max) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above –30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent |
| Certification                     | IP66, IP67, IP6K9K, NEMA4X, IK 10+                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IP52, IK 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | —                                                                          | IP66, IP67, IK 10, NEMA4X,<br>NEMA-TS 2 (2.2.8, 2.2.9)                                                                          | IP66, IP67, NEMA4X, IK 10                                                                                                                                                       |
| Power Consumption                 | PoE+: Max 17.0W, typical 12.1W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                                                                                                                                                                                                                                                                                                                                                                                                                  | PoE: Max 12.95W, typical 9.8W<br>12VDC: Max 19W, typical 9.5W              | PoE+: Max 19.5W, typical 15.5W<br>12VDC: Max 16.5W, typical 13.1W<br>Power redundancy failover                                  | PoE+: Max 22.5W, typical 17.9W<br>12VDC: Max 20W, typical 15.6W<br>Power redundancy failover                                                                                    |
| Product Dimensions / Weight       | ø 180x135mm(ø 6.30x5.31"),<br>2000g(4.41 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ø 160x125mm(ø 6.30x4.92"),<br>1600g(3.53 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 81(W)x67(H)x165(D)mm(3.19x2.64x6.48"),<br>880g(1.94 lb)                    | ø 93.4x298.4mm(ø 3.68x11.75"),<br>2300g(5.07 lb)                                                                                | ø 93.4x298.4mm(ø 3.68x11.75"),<br>2200g(4.85 lb)                                                                                                                                |

X Plus


**XNV-6123R**  
 2MP AI IR Vandal Dome Camera

X Plus


**XNV-6083RZ**  
 2MP AI IR Vandal Dome Camera

X Plus


**XNV-6083R**  
 2MP AI IR Vandal Dome Camera

X Plus


**XNV-6083Z**  
 2MP AI Vandal Dome Camera

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**XND-6083RV**  
 2MP AI IR Dome Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Resolution / Max. Frame Rate      | 2MP / 120fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Min. Illumination                 | Color: 0.03Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.6, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                                                                                                                                                                                                                                                                                                                                                                                                                        | Color: 0.03Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                  | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                         | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 30/25fps                                            | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                         |
| Video Out                         | CVBS: 1.0Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                | —                                                                                                                               | CVBS: 1.0Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | —                                                                                                                               | CVBS: 1.0Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation |
| Focal Length (Zoom Ratio)         | 5.2~62.4mm(12x) zoom<br>(digital 32x, total 384x zoom)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.4~9.3mm(2.1x) motorized varifocal                                                                                             | 2.8~12mm(4.3x) motorized varifocal                                                                                               | 2.8~12mm(4.3x) motorized varifocal                                                                                              | 2.8~12mm(4.3x) motorized varifocal                                                                                               |
| Angular Field of View             | H: 55° (Wide) ~ 5° (Tele)<br>V: 33° (Wide) ~ 3° (Tele)<br>D: 62° (Wide) ~ 6° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                             | H: 113° (Wide) ~ 47° (Tele)<br>V: 58° (Wide) ~ 26° (Tele)<br>D: 138° (Wide) ~ 54° (Tele)                                        | H: 120° (Wide) ~ 27° (Tele)<br>V: 63° (Wide) ~ 15° (Tele)<br>D: 143° (Wide) ~ 32° (Tele)                                         | H: 120° (Wide) ~ 27° (Tele)<br>V: 63° (Wide) ~ 15° (Tele)<br>D: 143° (Wide) ~ 32° (Tele)                                        | H: 120° (Wide) ~ 27° (Tele)<br>V: 63° (Wide) ~ 15° (Tele)<br>D: 143° (Wide) ~ 32° (Tele)                                         |
| Pan / Tilt / Rotate               | 0°~360° / -45°~80° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0°~350° / 0°~85° / 0°~340°                                                                                                      | 0°~360° / -45°~80° / 0°~355°                                                                                                     | 0°~350° / 0°~85° / 0°~340°                                                                                                      | 0°~360° / -45°~85° / 0°~355°                                                                                                     |
| IR Viewable Length                | WisIR 90m (295.28ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15m (42.91ft)                                                                                                                   | WisIR 50m (164.04ft)                                                                                                             | —                                                                                                                               | WisIR 50m (164.04ft)                                                                                                             |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Wide Dynamic Range                | extremeWDR(150dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WiseNR II (Based on AI engine), SSNR V                                                                                          | WiseNR II (Based on AI engine), SSNR V                                                                                           | WiseNR II (Based on AI engine), SSNR V                                                                                          | WiseNR II (Based on AI engine), SSNR V                                                                                           |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Support                                                                                                                         | Support (built-in gyro sensor)                                                                                                   | Support                                                                                                                         | Support (built-in gyro sensor)                                                                                                   |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support Detection Shot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br><b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear) |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Business Intelligence             | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Based on AI engine: People/Vehicle counting                                                                                     | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                        | Based on AI engine: People/Vehicle counting                                                                                     | Based on AI engine: People/Vehicle counting,<br>Queue management, Heatmap                                                        |
| Alarm I/O                         | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                               | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                           | —                                                                                                                               | 2 configurable I/O ports,<br>DC 12V output (Max. 50mA)                                                                           |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                               | Selectable (mic in/line in) / Line out                                                                                           | —                                                                                                                               | Selectable (mic in/line in/built-in mic) / Line out                                                                              |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| WiseStream                        | Manual (5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Up to 10 profiles                                                                                                               | Up to 10 profiles,<br>3 virtual channel support                                                                                  | Up to 10 profiles                                                                                                               | Up to 10 profiles,<br>3 virtual channel support                                                                                  |
| Edge Storage                      | micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                 |                                                                                                                                  |                                                                                                                                 |                                                                                                                                  |
| Operating Temperature / Humidity  | -40°C~+60°C(-40°F~+140°F)<br>* Start up should be done at above -30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                 | -50°C~+55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -50°C~+55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent  | -50°C~+55°C(-58°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -25°C~+50°C(-13°F~+122°F) / 0~100%<br>RH(condensing)<br>Humidity control with AIR vent                                           |
| Certification                     | IP66, IP67, IP6K9K, NEMA4X,<br>NEMA-TS 2 (2.2.8, 2.2.9), IK10+                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | IP66, IP67, IP6K9K, NEMA4X, IK10+                                                                                               | IP66, IP67, IP6K9K, NEMA4X, IK10+                                                                                                | IP66, IP67, IP6K9K, NEMA4X, IK10+                                                                                               | IP52, IK10                                                                                                                       |
| Power Consumption                 | PoE+: Max 19.5W, typical 15.5W<br>12VDC: Max 16.5W, typical 13.1W<br>Power redundancy failover                                                                                                                                                                                                                                                                                                                                                                                                                                  | PoE+: Max 22.5W, typical 11.0W                                                                                                  | PoE+: Max 22.5W, typical 11.0W                                                                                                   | PoE+: Max 17.0W, typical 11.0W                                                                                                  | PoE+: Max 17.0W, typical 11.0W                                                                                                   |
| Product Dimensions / Weight       | ø 180x138mm (ø 7.09x5.43"),<br>2130g(4.70 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ø 180x135mm (ø 7.09x5.31"),<br>2000g(4.41 lb)                                                                                   | ø 180x125mm (ø 7.09x4.92"),<br>1900g(4.19 lb)                                                                                    | ø 180x135mm (ø 7.09x5.31"),<br>2000g(4.41 lb)                                                                                   | ø 160x125mm (ø 6.30x4.92"),<br>1600g(3.53 lb)                                                                                    |

## X Plus



**XNB-6003**  
2MP AI Box Camera

## X Core



**XNO-C9083R**  
8MP AI IR Bullet Camera

## X Core



**XNV-C9083R**  
8MP AI IR Vandal Dome Camera

## X Core



**XND-C9083RV**  
8MP AI IR Dome Camera

## X Core



**XNO-C8083R**  
6MP AI IR Bullet Camera

| Imaging Device                    | 1/2.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/1.8" progressive CMOS                                                                                                         | 1/1.8" progressive CMOS                                                                                                         | 1/1.8" progressive CMOS                                                                        | 1/1.8" progressive CMOS                                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Resolution / Max. Frame Rate      | 2MP / 120fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8MP / 30fps                                                                                                                     | 8MP / 30fps                                                                                                                     | 8MP / 30fps                                                                                    | 6MP / 30fps                                                                                                                     |
| Min. Illumination                 | Color: 0.007Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.0007Lux(F1.2, 1/30sec, 30IRE),<br>30/25fps                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                  | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                  | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on) | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                  |
| Video Out                         | CVBS: 1.0Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                              | USB: Micro USB Type B,<br>1280x720 for installation                                                                             | USB: Micro USB Type B,<br>1280x720 for installation                                                                             | USB: Micro USB Type B,<br>1280x720 for installation                                            | USB: Micro USB Type B,<br>1280x720 for installation                                                                             |
| Focal Length (Zoom Ratio)         | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4.4~9.3mm(2.1x) motorized varifocal                                                                                             | 4.4~9.3mm(2.1x) motorized varifocal                                                                                             | 4.4~9.3mm(2.1x) motorized varifocal                                                            | 4.4~9.3mm(2.1x) motorized varifocal                                                                                             |
| Angular Field of View             | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | H: 113°(Wide)~47°(Tele)<br>V: 58°(Wide)~26°(Tele)<br>D: 138°(Wide)~54°(Tele)                                                    | H: 113°(Wide)~47°(Tele)<br>V: 58°(Wide)~26°(Tele)<br>D: 138°(Wide)~54°(Tele)                                                    | H: 113°(Wide)~47°(Tele)<br>V: 58°(Wide)~26°(Tele)<br>D: 138°(Wide)~54°(Tele)                   | H: 113°(Wide)~47°(Tele)<br>V: 58°(Wide)~26°(Tele)<br>D: 138°(Wide)~54°(Tele)                                                    |
| Pan / Tilt / Rotate               | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | –                                                                                                                               | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                                              | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                             | –                                                                                                                               |
| IR Viewable Length                | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | WiseIR 40m (131.23ft)                                                                                                           | WiseIR 40m (131.23ft)                                                                                                           | WiseIR 40m (131.23ft)                                                                          | WiseIR 40m (131.23ft)                                                                                                           |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Analytics                         | <p><b>Classified object type:</b> Person/Face/Vehicle/License plate<br/> <b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br/> <b>Support DetectionShot</b><br/> <b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br/> <b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear)</p> |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Business Intelligence             | Based on AI engine: People/Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Audio I/O                         | Selectable (mic in/line in/built-in mic) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| WiseStream                        | Manual (Sea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Edge Storage                      | micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI (HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                 |                                                                                                                                 |                                                                                                |                                                                                                                                 |
| Operating Temperature / Humidity  | -10°C~-55°C(-14°F~+131°F) / 0~95% RH(non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -40°C~-55°C(-40°F~+131°F)<br>* Start up should be done at above -20°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -40°C~-55°C(-40°F~+131°F)<br>* Start up should be done at above -20°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -10°C~-50°C(14°F~+122°F) / 0~100% RH(condensing)<br>Humidity control with AIR vent             | -40°C~-55°C(-40°F~+131°F)<br>* Start up should be done at above -20°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent |
| Certification                     | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IP66, IP67, NEMA4X, IK10                                                                                                        | IP66, IP67, NEMA4X, IK10                                                                                                        | IP52, IK08                                                                                     | IP66, IP67, NEMA4X, IK10                                                                                                        |
| Power Consumption                 | PoE: Max 12.95W, typical 9.8W<br>12VDC: Max 19W, typical 9.5W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                                                               | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                                                               | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                              | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                                                               |
| Product Dimensions / Weight       | 81(W)x67(H)x165(D)mm(3.19x2.64x6.48"),<br>880g(1.94lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ø 93.4x276.6mm(ø 3.68x10.89"),<br>1640g(3.62lb)                                                                                 | ø 160x118mm(ø 6.30x4.65"),<br>1450g(3.20lb)                                                                                     | ø 160x118mm(ø 6.30x4.65"),<br>1350g(2.98lb)                                                    | ø 93.4x276.6mm(ø 3.68x10.89"),<br>1640g(3.62lb)                                                                                 |



X Core



**XNV-C8083R**  
6MP AI IR Vandal Dome Camera

X Core



**XND-C8083RV**  
6MP AI Dome Camera

X Core



**XNO-C7083R**  
4MP AI IR Bullet Camera

X Core



**XNV-C7083R**  
4MP AI IR Vandal Dome Camera

X Core



**XND-C7083RV**  
4MP AI IR Dome Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/1.8" progressive CMOS                                                                        | 1/2.8" progressive CMOS                                                                                                              | 1/2.8" progressive CMOS                                                                                                              | 1/2.8" progressive CMOS                                                                                    |
| Resolution / Max. Frame Rate      | 6MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 6MP / 30fps                                                                                    | 4MP / 60fps                                                                                                                          | 4MP / 60fps                                                                                                                          | 4MP / 60fps                                                                                                |
| Min. Illumination                 | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                | Color: 0.04Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on) | Color: 0.038Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.0038Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                           | Color: 0.038Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.0038Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                           | Color: 0.038Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.0038Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps |
| Video Out                         | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Focal Length (Zoom Ratio)         | 4.4~9.3mm(2.1x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4.4~9.3mm(2.1x) motorized varifocal                                                            | 2.8~10mm(3.6x) motorized varifocal                                                                                                   | 2.8~10mm(3.6x) motorized varifocal                                                                                                   | 2.8~10mm(3.6x) motorized varifocal                                                                         |
| Angular Field of View             | H: 113° (Wide)~47° (Tele)<br>V: 58° (Wide)~26° (Tele)<br>D: 138° (Wide)~54° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                            | H: 113° (Wide)~47° (Tele)<br>V: 58° (Wide)~26° (Tele)<br>D: 138° (Wide)~54° (Tele)             | H: 110° (Wide)~30° (Tele)<br>V: 61° (Wide)~17° (Tele)<br>D: 132° (Wide)~35° (Tele)                                                   | H: 110° (Wide)~30° (Tele)<br>V: 61° (Wide)~17° (Tele)<br>D: 132° (Wide)~35° (Tele)                                                   | H: 110° (Wide)~30° (Tele)<br>V: 61° (Wide)~17° (Tele)<br>D: 132° (Wide)~35° (Tele)                         |
| Pan / Tilt / Rotate               | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                             | -                                                                                                                                    | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                                                   | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                         |
| IR Viewable Length                | WiseIR 40m (131.23ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type:car/bus/truck/motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br><b>Analytics events:</b> Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear) |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Business Intelligence             | Based on AI engine: People/Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| WiseStream                        | Manual(Sea area), WiseStream III(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Edge Storage                      | micro SD/SDHC/SDXC 1slot 512GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                |                                                                                                                                      |                                                                                                                                      |                                                                                                            |
| Operating Temperature / Humidity  | -40° C~+55° C(-40° F~+131° F)<br>* Start up should be done at above -20° C<br>0~100%RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                          | -10° C~+50° C(14° F~+122° F) /<br>0~100% RH(condensing)<br>Humidity control with AIR vent      | -40° C~+55° C(-40° F~+131° F)<br>* Start up should be done at above -20° C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -40° C~+55° C(-40° F~+131° F)<br>* Start up should be done at above -20° C<br>0~100%RH(condensing)<br>Humidity control with AIR vent | -10° C~+50° C(14° F~+122° F) /<br>0~100% RH(condensing)<br>Humidity control with AIR vent                  |
| Certification                     | IP66, IP67, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IP52, IK08                                                                                     | IP66, IP67, NEMA4X, IK10                                                                                                             | IP66, IP67, NEMA4X, IK10                                                                                                             | IP52, IK08                                                                                                 |
| Power Consumption                 | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PoE: Max 12.95W, typical 11.2W<br>12VDC: Max 13.2W, typical 10.8W                              | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                                                      | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                                                      | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                            |
| Product Dimensions / Weight       | ø 160x118mm(ø 6.30x4.65"),<br>1450g(3.20 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ø 160x118mm(ø 6.30x4.65"),<br>1350g(2.98 lb)                                                   | ø 93.4x276.6mm(ø 3.68x10.89"),<br>1640g(3.62 lb)                                                                                     | ø 160x118mm(ø 6.30x4.65"),<br>1450g(3.20 lb)                                                                                         | ø 160x118mm(ø 6.30x4.65"),<br>1350g(2.98 lb)                                                               |

## X Core



**XNO-C6083R**  
2MP AI IR Bullet Camera

## X Core



**XNV-C6083R**  
2MP AI IR Vandal Dome Camera

## X Core



**XND-C6083RV**  
2MP AI Dome Camera

## X Plus



**XNF-9013RV**  
12MP AI Fisheye Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Imaging Device                    | 1/2.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 1/2.8" progressive CMOS                                                                                                         |  | 1/2.8" progressive CMOS                                                                                  |  | 1/2.3" 12MP CMOS                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | 2MP / 60fps                                                                                                                     |  | 2MP / 60fps                                                                                              |  | 3008 x 3008 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Min. Illumination                 | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>B/W: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                                                                                                                                                                                                                                                                                                                                                                                                 |  | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>B/W: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                       |  | Color: 0.01Lux(F1.4, 1/30sec, 30IRE)<br>BW: 0.001Lux(F1.4, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps |  | Color: 0.39 Lux (F2.2, 1/30sec),<br>BW: 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                 |  |
| Video Out                         | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                 |  |                                                                                                          |  | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N),<br>720x576(P), for Installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                         |  |
| Focal Length (Zoom Ratio)         | '2.8~12mm(4.3x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                 |  |                                                                                                          |  | 1.08mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Angular Field of View             | H: 120°(Wide)~27°(Tele)<br>V: 63°(Wide)~15°(Tele)<br>D: 143°(Wide)~32°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                              |  | H: 120°(Wide)~27°(Tele)<br>V: 63°(Wide)~15°(Tele)<br>D: 143°(Wide)~32°(Tele)                                                    |  | H: 120°(Wide)~27°(Tele)<br>V: 63°(Wide)~15°(Tele)<br>D: 143°(Wide)~32°(Tele)                             |  | H: 187° / V: 187° / D: 187°                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Pan / Tilt / Rotate               | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                                              |  | 0° ~ 360° / -45° ~ 75° / 0° ~ 355°                                                                       |  | Lens Rotation                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| IR Viewable Length                | WiseIR 40m (131.23ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | WiseIR 40m (131.23ft)                                                                                                           |  | WiseIR 40m (131.23ft)                                                                                    |  | Wise IR, PoE: 8m(26.25ft), PoE+: 13m(42.65ft)                                                                                                                                                                                                                                                                                                                                                                           |  |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Wide Dynamic Range                | extremeWDR (150dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | extremeWDR (150dB)                                                                                                              |  | extremeWDR (150dB)                                                                                       |  | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | Support (built-in gyro sensor)                                                                                                  |  | Support (built-in gyro sensor)                                                                           |  | -                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Analytics                         | <div>Classified object type: Person/Face/Vehicle/License plate<br/>Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle)<br/>Support DetectionShot<br/>Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection<br/>Analytics events: Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear)</div> |  |                                                                                                                                 |  |                                                                                                          |  | <div>Classified object type: Person/Face/Vehicle/License plate<br/>Support DetectionShot<br/>Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit)<br/>Analytics events: Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear)</div> |  |
| Business Intelligence             | Based on AI engine: People/Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| WiseStream                        | Manual(5ea area), WiseStream III(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Streaming                         | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Up to 10 profiles, 3 virtual channel support                                                                                    |  | Up to 10 profiles, 3 virtual channel support                                                             |  | Up to 10 profiles, 5 virtual channel support                                                                                                                                                                                                                                                                                                                                                                            |  |
| Edge Storage                      | micro SD/SDHC/SDXC 1slot 512GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | micro SD/SDHC/SDXC 1slot 512GB                                                                                                  |  | micro SD/SDHC/SDXC 1slot 512GB                                                                           |  | micro SD/SDHC/SDXC 2slots 1TB (512GBx2)                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                 |  |                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Operating Temperature / Humidity  | -40°C~-55°C(-40°F~+131°F)<br>* Start up should be done at above -20°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                           |  | -40°C~-55°C(-40°F~+131°F)<br>* Start up should be done at above -20°C<br>0~100%RH(condensing)<br>Humidity control with AIR vent |  | -10 °C~-50°C(14°F~+122°F) / 0~100%<br>RH(condensing)<br>Humidity control with AIR vent                   |  | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 95%<br>RH POE+ Mode 55°C (Hysteresis 5°C)<br>Wise IR 8m(26.25ft)                                                                                                                                                                                                                                                                                                             |  |
| Certification                     | IP66, IP67, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | IP66, IP67, NEMA4X, IK10                                                                                                        |  | IP52, IK08                                                                                               |  | IP66, IK10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Power Consumption                 | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                                                 |  | PoE: Max 12.95W, typical 10.8W<br>12VDC: Max 12.5W, typical 10W                                          |  | PoE: Max 12.95W, typical 9.4W,<br>12VDC: Max 12.9W, typical 9.0W /<br>PoE+: Max 23.0W, typical 9.4W,<br>12VDC: Max 22.0W, typical 9.0W                                                                                                                                                                                                                                                                                  |  |
| Product Dimensions / Weight       | ø 93.4x276.6mm(ø 3.68x10.89"),<br>1640g(3.62 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | ø 160x118mm(ø 6.30x4.65"),<br>1450g(3.20 lb)                                                                                    |  | ø 160x118mm(ø 6.30x4.65"),<br>1350g(2.98 lb)                                                             |  | Ø 160x72mm(6.23x2.84"),<br>1,170g (2.58lb)                                                                                                                                                                                                                                                                                                                                                                              |  |

AI Focus PTZ


**XNP-C9310R**  
**8MP 31x AI + IR PTZ Camera**

AI PTZ Plus


**XNP-C9303RW**  
**8MP 30x AI + Wiper + IR PTZ Camera**

AI PTZ Plus


**XNP-C9253R**  
**8MP 25x AI + IR PTZ Camera**

AI PTZ Plus


**XNP-C9253**  
**8MP 25x AI PTZ Camera**

AI PTZ Plus


**XNP-C8303RW**  
**6MP 30x AI + Wiper + IR PTZ Camera**

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1/2.8" CMOS                                                                                                                                                                 | 1/2.8" CMOS                                                          | 1/2.8" CMOS                                                          | 1/2.8" CMOS                                                          |
| Resolution / Max. Frame Rate      | 8MP /30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8MP / 30fps                                                                                                                                                                 | 8MP / 30fps                                                          | 8MP / 30fps                                                          | 6MP / 30fps                                                          |
| Min. Illumination                 | Color: 0.06 Lux(F1.36, 1/30sec, 30IRE)<br>BW: 0.006 Lux(F1.36, IR LED Off),<br>0Lux (IR LED On)                                                                                                                                                                                                                                                                                                                                                                                 | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                         | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                  | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0.01Lux(F1.6, 1/30sec)           | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                  |
| Video Out                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | —                                                                                                                                                                           | —                                                                    | —                                                                    | —                                                                    |
| Focal Length (Zoom Ratio)         | 6.91 ~ 214.7mm(31x) zoom<br>(digital 32x, total 992x zoom)<br>Support Quick zoom                                                                                                                                                                                                                                                                                                                                                                                                | 5~150mm(30x) zoom<br>(digital 32x, total 960x zoom)                                                                                                                         | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                  | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                  | 5~150mm(30x) zoom<br>(digital 32x, total 960x zoom)                  |
| Angular Field of View             | H: 60.6° (Wide) ~ 2.59° (Tele)<br>V: 35.1° (Wide) ~ 1.45° (Tele)<br>D: 68.8° (Wide) ~ 2.97° (Tele)                                                                                                                                                                                                                                                                                                                                                                              | H: 57.42° (Wide)~2.19° (Tele)<br>V: 33.54° (Wide)~1.25° (Tele)                                                                                                              | H: 57.42° (Wide)~2.71° (Tele)<br>V: 33.54° (Wide)~1.55° (Tele)       | H: 57.42° (Wide)~2.71° (Tele)<br>V: 33.54° (Wide)~1.55° (Tele)       | H: 57.42° (Wide)~2.19° (Tele)<br>V: 33.54° (Wide)~1.25° (Tele)       |
| Pan / Tilt / Rotate               | 360° Endless / ~20° ~90°                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| IR Viewable Length                | WiseIR 250m(820ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Wise IR 200m (656.17ft)                                                                                                                                                     | Wise IR 200m(656.17ft)                                               | —                                                                    | Wise IR 200m(656.17ft)                                               |
| Day & Night                       | Auto (ICR)/Color/BW/Schedule                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Wide Dynamic Range                | extremeWDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Digital Noise Reduction           | WiseNR III(Based on AI engine), SSNRV                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Analytics                         | Classified object type : Person/Face/Vehicle/License plate<br>Attributes : Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br>Support DetectionShot<br>Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection<br>Analytics events: Tampering, Fog detection, Audio detection, Sound classification(with NW I/O Box : SPM-4210), Shock detection, Virtual area(Appear/Disappear) |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Business Intelligence             | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Alarm I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Audio I/O                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| WiseStream                        | Manual(5ea area), WiseStream III(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Application Programming Interface | ONVIF Profile S/G/T/M<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                             |                                                                      |                                                                      |                                                                      |
| Operating Temperature / Humidity  | ~50°C~+55°(-58°F~+131°F)/<br>+74°C(165°F)(Max) based on NEMA TS-2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control<br>with AIR vent                                                                                                                                                                                                                                                                                                  | ~40°C~+55°(-58°F~+131°F)/<br>+74°C(165°F)(Max) based on NEMA TS-2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent |                                                                      |                                                                      |                                                                      |
| Certification                     | IP66/IP67, IK10, NEMA4X<br>Safety(UL, KC-SDOC), EMC(FCC, CE, VCCI,<br>RCM, KC)<br>NEMA-TS 2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                                                                                                                                                                                                                                                | IP66, IK10, NEMA4X, NEMA-TS 2(2.2.7, 2.2.8, 2.2.9)                                                                                                                          |                                                                      |                                                                      |                                                                      |
| Power Consumption                 | Typical 23W, Max 62W                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Typical 26W, Max 46W                                                                                                                                                        | Typical 24W, Max 40W                                                 | Typical 24W, Max 25.5W                                               | Typical 26W, Max 46W                                                 |
| Product Dimensions / Weight       | ø 188x264.9mm(ø 7.40x10.47") /<br>4400g (9.70lb)                                                                                                                                                                                                                                                                                                                                                                                                                                | ø 184.9x318.8mm(7.28x12.55") /<br>5600g (12.34lb)                                                                                                                           | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                        | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                        | ø 184.9x318.8mm(7.28x12.55") /<br>5600g (12.34lb)                    |
| Additional Features               | Upgraded preset accuracy, Object auto tracking, Target lock tracking, Quick zoom, Focus scan, Wise focus                                                                                                                                                                                                                                                                                                                                                                        | Upgraded preset accuracy, Object auto tracking, Target lock tracking                                                                                                        | Upgraded preset accuracy, Object auto tracking, Target lock tracking | Upgraded preset accuracy, Object auto tracking, Target lock tracking | Upgraded preset accuracy, Object auto tracking, Target lock tracking |

AI PTZ Plus


**XNP-C8253R**  
 6MP 40x AI+IR PTZ Camera

AI PTZ Plus


**XNP-C8253**  
 6MP 25x AI PTZ Camera

AI Focus PTZ


**XNP-C7310R**  
 4MP 31x AI+IR PTZ Camera

AI PTZ Plus


**XNP-C6403RW**  
 2MP 40x AI+Wiper+IR PTZ Camera

AI PTZ Plus


**XNP-C6403R**  
 2MP 40x AI+IR PTZ Camera

AI PTZ Plus


**XNP-C6403**  
 2MP 40x AI PTZ Camera

| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/2.8" CMOS                                                                                                                                                                            | 1/1.8" CMOS                                                                                                                                                                               | 1/2.8" CMOS                                                                                                                                                                              | 1/2.8" CMOS                                                                                                                                                                              | 1/2.8" CMOS                                                                                                                                                      |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resolution / Max. Frame Rate      | 6MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6MP / 30fps                                                                                                                                                                            | 4MP / 60fps                                                                                                                                                                               | 2MP / 60fps                                                                                                                                                                              | 2MP / 60fps                                                                                                                                                                              | 2MP / 60fps                                                                                                                                                      |
| Min. Illumination                 | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0.01Lux(F1.6, 1/30sec)                                                                                                                             | Color: 0.04Lux<br>(F1.36, 1/30sec, 30IRE)<br>BW: 0.004Lux(F1.36, IR LED Off,<br>0Lux(IR LED On)                                                                                           | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                                     | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                                     | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec)                                                                                                     |
| Video Out                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | —                                                                                                                                                                                      | —                                                                                                                                                                                         | —                                                                                                                                                                                        | —                                                                                                                                                                                        | —                                                                                                                                                                |
| Focal Length (Zoom Ratio)         | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5~125mm(25x) zoom (digital 32x,<br>total 800x zoom)                                                                                                                                    | 6.91~214.7mm(31x) zoom<br>(digital 32x, total 992x zoom)<br>Support Quick zoom                                                                                                            | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)                                                                                                                                  | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)                                                                                                                                  | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)                                                                                                          |
| Angular Field of View             | H: 57.42° (Wide)~2.71° (Tele)<br>V: 33.54° (Wide)~1.55° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                    | H: 57.42° (Wide)~2.71° (Tele)<br>V: 33.54° (Wide)~1.55° (Tele)                                                                                                                         | H: 59.4° (Wide)~2.54° (Tele)<br>V: 35.8° (Wide)~1.49° (Tele)                                                                                                                              | H: 65.66° (Wide)~1.88° (Tele)<br>V: 39.4° (Wide)~1.09° (Tele)                                                                                                                            | H: 65.66° (Wide)~1.88° (Tele)<br>V: 39.4° (Wide)~1.09° (Tele)                                                                                                                            | H: 65.66° (Wide)~1.88° (Tele)<br>V: 39.4° (Wide)~1.09° (Tele)"                                                                                                   |
| Pan / Tilt / Rotate               | 360° Endless / -20° ~90°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| IR Viewable Length                | Wise IR 200m(656.17ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                                                                                      | WiseIR 300m(984ft)                                                                                                                                                                        | Wise IR 200m (656.17ft)                                                                                                                                                                  | Wise IR 200m (656.17ft)                                                                                                                                                                  | —                                                                                                                                                                |
| Day & Night                       | Auto (ICR)/Color/BW/Schedule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | extremeWDR (120dB)                                                                                                                                                                     | extremeWDR (120dB)                                                                                                                                                                        | extremeWDR (150dB)                                                                                                                                                                       | extremeWDR (150dB)                                                                                                                                                                       | extremeWDR (150dB)                                                                                                                                               |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br><b>Support Detection Shot</b><br><b>Analytics events based on AI engine:</b> Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection<br><b>Analytics events:</b> Tampering, Fog detection, Audio detection, Sound classification(with NW I/O Box : SPM-4210), Shock detection, Virtual area(Appear/Disappear) |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Business Intelligence             | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Alarm I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Audio I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| WiseStream                        | Manual(5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                          |                                                                                                                                                                  |
| Operating Temperature / Humidity  | -40°C~-55°C(-40°F~+131°F) /<br>+74° C(+165° F) (MAX) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at<br>above -30°C<br>0~100%RH(Condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                        | -40°C~-55°C(-40°F~+131°F) /<br>+74°C(165°F)(MAX) based on NEMA<br>TS-2(2.2.7)<br>* Start up should be done at<br>above -30°C<br>0~100%RH(Condensing)<br>Humidity control with AIR vent | -50°C~-55°C(-58°F~+131°F) /<br>+74°C(+165°F) (MAX) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at a<br>bove -30°C<br>0~100%RH(Condensing)<br>Humidity control with AIR vent | -40°C~-55°C(-40°F~+131°F) /<br>+74°C(+165°F) (MAX) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at<br>above -30°C<br>0~100%RH(Condensing)<br>Humidity control with AIR vent | -40°C~-50°C(-40°F~+122°F) /<br>+74°C(+165°F) (MAX) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at<br>above -30°C<br>0~100%RH(Condensing)<br>Humidity control with AIR vent | -40°C~-50°C(-40°F~+122°F) /<br>+74°C(+165°F) (MAX) based on<br>NEMA-TS 2(2.2.7)<br>* Start up should be done at<br>above -30°C<br>Humidity control with AIR vent |
| Certification                     | IP66, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IP66, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                  | IP66/67, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                  | IP66, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                    | IP66, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                    | IP66, IK10, NEMA4X, NEMA-TS<br>2(2.2.7, 2.2.8, 2.2.9)                                                                                                            |
| Power Consumption                 | Typical 24W, Max 40W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Typical 24W, Max 25.5W                                                                                                                                                                 | HPoE: Max 62W, typical 23W                                                                                                                                                                | Typical 26W, Max 46W                                                                                                                                                                     | Typical 24W, Max 40W                                                                                                                                                                     | Typical 24W, Max 25.5W                                                                                                                                           |
| Product Dimensions / Weight       | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                          | ø 188x264.9mm(ø 7.40x10.47") /<br>4400g (9.70lb)                                                                                                                                          | ø 184.9x318.8mm(7.28x12.55") /<br>5600g (12.34lb)                                                                                                                                        | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                            | Ø 158x293.3mm(6.22x11.55") /<br>3,200g(7.05lb)                                                                                                                   |
| Additional Features               | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking                                                                                                                                                                                                                                                                                                                                                                                                                                           | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking                                                                                                                | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking,<br>Quick zoom, Focus scan, Wise focus                                                                            | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking                                                                                                                  | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking                                                                                                                  | Upgraded preset accuracy, Object<br>auto tracking, Target lock tracking                                                                                          |





**PNO-A9311R**  
8MP AI IR Bullet Camera



**PNO-A9081R**  
8MP AI IR Bullet Camera



**PNV-A9081R**  
8MP AI IR Vandal Dome Camera



**PND-A9081RV**  
8MP AI IR Dome Camera



**PND-A9081RF**  
8MP AI IR Dome Camera



**PNB-A9001**  
8MP AI Box Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Resolution / Max. Frame Rate      | 4K / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                | 8MP / 30fps                                                                                    |                                                                                          |                                                                                          |                                                                       |
| Min. Illumination                 | Color: 0.075Lux(F1.36, 1/30sec, 30IRE)<br>BW: 0.0075Lux(F1.36, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR<br>LED on)               | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR<br>LED on)               | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR<br>LED on)         | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR<br>LED on)         | Color: 0.03Lux(F1.2, 1/30sec)<br>B/W: 0.003Lux(F1.2, 1/30sec)         |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Focal Length (Zoom Ratio)         | 6.91~214.7mm (31x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4.5~10mm(2.2x) motorized varifocal                                                             |                                                                                                |                                                                                          |                                                                                          | –                                                                     |
| Angular Field of View             | H: 60.92° (Wide)~2.2° (Tele)<br>V: 35.26° (Wide)~1.24° (Tele)<br>D: 69.18° (Wide)~2.52° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele)       | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele)       | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele) | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele) | –                                                                     |
| Pan / Tilt / Rotate               | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | –                                                                                              | 0°~360° / -45°~85° / 0°~355°                                                                   | 0°~360° / -45°~85° / 0°~355°                                                             | 0°~360° / -45°~85° / 0°~355°                                                             | –                                                                     |
| IR Viewable Length                | WiseIR 70m(229.66ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WiseIR 30m(98.42ft)                                                                            |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Digital Noise Reduction           | WiseNR II (Based on AI engine),SSNRV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color)<br><b>Support BestShot per object</b><br><b>Analytics events based on AI engine</b> –Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection<br><b>Analytics events</b> – Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br><b>Support WiseDetector for Adding custom objects</b><br>*Some of the video analytics only works with people and vehicle detection |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Business Intelligence             | People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Alarm I/O                         | 2 configurable I/O ports, DC 12V output(Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Audio I/O                         | Selectable(mic in/line in) / line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Selectable (mic in/line in) /<br>line out                                                      | Selectable (mic in/line in) /<br>line out                                                      | Selectable (mic in/line in/<br>built-in mic) / line out                                  | Selectable (mic in/line in) /<br>line out                                                | Selectable (mic in/line in/<br>built-in mic) / line out               |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| WiseStream                        | Manual(5ea area), WiseStream II, WiseStream III(using AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Streaming                         | Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max.<br>512GB(256GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Micro SD/SDHC/SDXC 2slots 512GB                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform – WiseAI application included(Analytic based on AI, Business intelligence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                |                                                                                                |                                                                                          |                                                                                          |                                                                       |
| Operating Temperature / Humidity  | -40°C~+55°C(-40°F~+131°F) /<br>0~100%RH(condensing) , Humidity<br>control /with AIR vent<br>* Start up should be done at above -30°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -50°C ~+55°C(-58°F ~+131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30° C | -50°C ~+55°C(-58°F ~+131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30° C | -25°C ~+50°C (-13°F ~+122°F) /<br>Less than 90% RH                                       | -25°C ~+50°C (-13°F ~+122°F) /<br>Less than 90% RH                                       | -10°C ~+55°C(+14°F ~+131°F) /<br>Less than 90% RH                     |
| Certification                     | IP66/IP67, IK10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IP66/IP67, IK10, NEMA4X                                                                        | IP66/IP67/IP6K9K, IK10+, NEMA4X                                                                | IP52, IK10                                                                               | IP52, IK10, Plenum rate                                                                  | –                                                                     |
| Power Consumption                 | PoE+: Max 25.5W, typical 14.0W<br>12VDC: Max 24.0W, typical 12.7.W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PoE+: Max 20.0W, typical 17.00W<br>12VDC: Max 18.00W, typical 16.00W                           | PoE+: Max 20.00W, typical 17.00W<br>12VDC: Max 18.70W, typical 15.00W                          | PoE+: Max 20.00W, typical 16.00W<br>12VDC: Max 17.70W, typical 14.00W                    | PoE+: Max 20.00W, typical 16.00W<br>12VDC: Max 17.70W, typical 14.00W                    | PoE+: Max 16.50W, typical 12.50W<br>12VDC: Max 13.50W, typical 10.80W |
| Product Dimensions / Weight       | Ø136.2x358.7mm(Ø5.36x14.12")<br>(Without sunshield), 3200g(7.05lb)<br>* backbox: Ø160mm(Ø6.30")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ø91.0x368.6mm (3.58" x 14.51")<br>(Without sunshield), 2.48Kg (5.47lb)                         | Ø180x125mm(7.09x4.92"),<br>1.90Kg (4.19lb)                                                     | Ø160x125mm(6.30x4.92"),<br>1.60Kg (3.53lb)                                               | Ø205x163mm(8.07x4.92"),<br>1.95Kg (4.30lb)                                               | 81x67x165mm(3.19x2.64x6.48"),<br>0.88kg(1.94lb)                       |



**PNO-A6081R**  
2MP AI IR Bullet Camera



**PNV-A6081R**  
2MP AI IR Vandal Dome Camera



**PND-A6081RV**  
2MP AI IR Dome Camera



**PND-A6081RF**  
2MP AI IR Dome Camera



**PNB-A6001**  
2MP AI Box Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1/2" CMOS                                                                                                                         | 1/2" CMOS                                                                                                                         | 1/2" CMOS                                                                                                                         | 1/2" CMOS                                                                                                                         |
| Resolution / Max. Frame Rate      | 2MP / 120fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2MP / 120fps                                                                                                                      | 2MP / 120fps                                                                                                                      | 2MP / 120fps                                                                                                                      | 2MP / 120fps                                                                                                                      |
| Min. Illumination                 | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                       | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                       | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE),<br>0Lux(IR LED on), 30/25fps                       | Color: 0.006Lux(F1.2, 1/30sec, 30IRE)<br>B/W: 0.0006Lux(F1.2, 1/30sec, 30IRE),<br>30/25fps                                        |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation | CVBS: 1.0 Vp-p / 75Ω composite,<br>720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B,<br>1280x720 for installation |
| Focal Length (Zoom Ratio)         | 4.38~9.33mm(2.13x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   | -                                                                                                                                 |
| Angular Field of View             | H:103.1°(Wide)~44.5°(Tele) /<br>V:54.2°(Wide)~24.9°(Tele) /<br>D:124°(Wide)~51.1°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H:103.1°(Wide)~44.5°(Tele) /<br>V:54.2°(Wide)~24.9°(Tele) /<br>D:124°(Wide)~51.1°(Tele)                                           | H:103.1°(Wide)~44.5°(Tele) /<br>V:54.2°(Wide)~24.9°(Tele) /<br>D:124°(Wide)~51.1°(Tele)                                           | H:103.1°(Wide)~44.5°(Tele) /<br>V:54.2°(Wide)~24.9°(Tele) /<br>D:124°(Wide)~51.1°(Tele)                                           | -                                                                                                                                 |
| Pan / Tilt / Rotate               | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0° ~360° / -45°~85° / 0° ~355°                                                                                                    | 0° ~360° / -45°~85° / 0° ~355°                                                                                                    | 0° ~360° / -45°~85° / 0° ~355°                                                                                                    | -                                                                                                                                 |
| IR Viewable Length                | WiseIR 40m(131.23ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | WiseIR 40m(131.23ft)                                                                                                              | WiseIR 40m(131.23ft)                                                                                                              | WiseIR 40m(131.23ft)                                                                                                              | -                                                                                                                                 |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Auto (ICR)                                                                                                                        | Auto (ICR)                                                                                                                        | Auto (ICR)                                                                                                                        | Auto (ICR)                                                                                                                        |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 120dB                                                                                                                             | 120dB                                                                                                                             | 120dB                                                                                                                             | 120dB                                                                                                                             |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Digital Image Stabilization       | Support (built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Support (built-in gyro sensor)                                                                                                    | Support (built-in gyro sensor)                                                                                                    | Support (built-in gyro sensor)                                                                                                    | Support (built-in gyro sensor)                                                                                                    |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color)<br><b>Support BestShot per object</b><br><b>Analytics events based on AI engine</b><br>- Object detection, Virtual line*(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection<br><b>Analytics events</b> - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) <b>Support WiseDetector for Adding custom objects</b> |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Business Intelligence             | People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Alarm I/O                         | 2 configurable I/O ports, DC 12V output(Max. 50mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Audio I/O                         | Line in / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Line in / Line out                                                                                                                | Line in / Line out                                                                                                                | Line in / Line out                                                                                                                | Line in / Line out                                                                                                                |
| Video Compression                 | Selectable (mic in/line in) / line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Selectable (mic in/line in) / line out                                                                                            | Selectable (mic in/line in/built-in mic) /<br>line out                                                                            | Selectable (mic in/line in) / line out                                                                                            | Selectable (mic in/line in/built-in mic) /<br>line out                                                                            |
| WiseStream                        | Manual(Sea area), WiseStream II, WiseStream III (using AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Streaming                         | Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform<br>- WiseAI application included(Analytic based on AI, Business intelligence)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |                                                                                                                                   |
| Operating Temperature / Humidity  | -50°C ~ +55°C(-58°F ~ +131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -50°C ~ +55°C(-58°F ~ +131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30°C                                   | -25°C ~ +50°C(-13°F ~ +122°F) /<br>Less than 90% RH                                                                               | -25°C ~ +50°C(-13°F ~ +122°F) /<br>Less than 90% RH                                                                               | -10°C ~ +55°C(+14°F ~ +131°F) /<br>Less than 90% RH                                                                               |
| Certification                     | IP66, IP67, IK10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | IP66, IP67, IP6K9K, IK10+, NEMA4X                                                                                                 | IP52, IK10                                                                                                                        | IP52, IK10, Plenum rate                                                                                                           | -                                                                                                                                 |
| Power Consumption                 | PoE+: Max 19.50W, typical 16.00W<br>12VDC: Max 17.00W, typical 13.50W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PoE+: Max 19.50W, typical 16.00W<br>12VDC: Max 17.00W, typical 13.50W                                                             | PoE+: Max 19.50W, typical 16.00W<br>12VDC: Max 17.00W, typical 13.50W                                                             | PoE+: Max 19.50W, typical 16.00W<br>12VDC: Max 17.00W, typical 13.50W                                                             | PoE+: Max 17.5W, Typ 13.7W<br>12VDC: Max 14W, Typ 10.6W                                                                           |
| Product Dimensions / Weight       | Ø91.0x368.6mm (3.58" x 14.51")<br>(Without sunshield), 2.48Kg (5.47lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ø180x125mm(7.09x4.92"),<br>1.90Kg (4.19lb)                                                                                        | Ø160x125mm(6.30x4.92"),<br>1.60Kg (3.53lb)                                                                                        | Ø205x163mm(8.07x4.92"),<br>1.95Kg(4.30lb)                                                                                         | 81x67x165mm(3.19x2.64x6.48"),<br>0.88kg(1.94lb)                                                                                   |



**PNM-C34404RQPZ**  
4K 4CH PTRZ + 2MP 40x PTZ AI Camera



**PNM-C16083RVQ**  
4MP x 4CH AI Camera



**PNM-C32083RVQ**  
4K x 4CH AI Camera

| Imaging Device                    | 1/2.8" CMOS x 4CH                                                                                                                                                                                                                                                                                                                                                                                                                    | 1/2.8" CMOS x 1CH PTZ                                                                                                                                                                                                                                | 1/2.8" CMOS x 4CH                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1/2.8" CMOS x 4CH                                                                                                                   |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Resolution / Max. Frame Rate      | [AI On] 8MP Max. 15fps, [AI Off] 8MP Max. 20fps                                                                                                                                                                                                                                                                                                                                                                                      | 2MP / 60fps                                                                                                                                                                                                                                          | 4MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [AI On] 8MP Max. 15fps [AI Off] 8MP Max. 20fps                                                                                      |
| Min. Illumination                 | Color: 0.1Lux(F1.5, 1/30sec, 30IRE)<br>BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                            | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                          | Color: 0.075Lux(F1.5, 1/30sec, 30IRE)<br>BW: 0.0075Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                | Color: 0.1Lux(F1.5, 1/30sec, 30IRE)<br>BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)                                           |
| Video Out                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                    | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                             | USB: Micro USB Type B, 1280x720 for installation                                                                                    |
| Focal Length (Zoom Ratio)         | 3.3~5.7mm(1.7x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                  | 4.25~170mm(40x) zoom(digital 32x, total 1280x zoom)                                                                                                                                                                                                  | 3.3~5.7mm(1.7x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.3~5.7mm(1.7x) motorized varifocal                                                                                                 |
| Angular Field of View             | H: 109°(Wide)~56°(Tele)<br>V: 55°(Wide)~31°(Tele)<br>D: 136°(Wide)~65°(Tele)                                                                                                                                                                                                                                                                                                                                                         | H: 65.66°(Wide)~1.88°(Tele)<br>V: 39.40°(Wide)~1.09°(Tele)                                                                                                                                                                                           | H: 99.8°(Wide)~53.0°(Tele)<br>V: 53.8°(Wide)~30.7°(Tele)<br>D: 124.3°(Wide)~61.8°(Tele)                                                                                                                                                                                                                                                                                                                                                                                      | H: 108.3°(Wide)~56.4°(Tele)<br>V: 54.7°(Wide)~31.2°(Tele)<br>D: 135.5°(Wide)~65.2°(Tele)                                            |
| Pan / Tilt / Rotate               | 0°~360° / 9°~65° / 0°~90°<br>* Tilt angle with Shield IR: 40°~65°                                                                                                                                                                                                                                                                                                                                                                    | 0°~360° / -20°~90°                                                                                                                                                                                                                                   | 0~360° / 0~73° / 0~90°                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0~360° / 0~73° / 0~90°                                                                                                              |
| IR Viewable Length                | 20m (65.62ft)                                                                                                                                                                                                                                                                                                                                                                                                                        | WiselR 200m (656.17ft)                                                                                                                                                                                                                               | WiselR 15m(49.21ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WiselR 15m(49.21ft)                                                                                                                 |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                      | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Auto (ICR)                                                                                                                          |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                | extremeWDR (150dB)                                                                                                                                                                                                                                   | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 120dB                                                                                                                               |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                      | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                       | WiseNR II (Based on AI engine), SSNR V                                                                                              |
| Digital Image Stabilization       | —                                                                                                                                                                                                                                                                                                                                                                                                                                    | Support                                                                                                                                                                                                                                              | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                                   |
| Analytics                         | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b><br>:Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>: Defocus detection, Motion detection, Tampering, Virtual area(Appear/Disappear) | <b>Analytics events:</b> Motion detection, Fog detection, Tampering, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Virtual line(Crossing/Direction)<br>Support Audio detection, Sound classification via optional I/O box(SPM-4210) | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b><br>- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>- Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear) |                                                                                                                                     |
| Business Intelligence             | —                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                                   |
| Alarm I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                    | 2 configurable I/O ports<br>* Support extra alarm I/O via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                          | 2 configurable I/O ports<br>* Support extra alarm I/O via optional SPM-4210 I/O box                                                 |
| Audio I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                    | Selectable(mic in/line in) / —                                                                                                                                                                                                                                                                                                                                                                                                                                               | Selectable(mic in/line in) / —                                                                                                      |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                   | H.265/H.264, MJPEG                                                                                                                                                                                                                                   | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H.265/H.264, MJPEG                                                                                                                  |
| WiseStream                        | Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                      | Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                         | Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)                                                                |
| Streaming                         | Unicast(10 users) / Multicast Multiple streaming (Up to 3 profiles)                                                                                                                                                                                                                                                                                                                                                                  | Unicast(20 users) / Multicast Multiple streaming (Up to 10 profiles)                                                                                                                                                                                 | Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per channel)                                                                                                                                                                                                                                                                                                                                                                                               | Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per channel)                                                      |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot 1TB(512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                      | Micro SD/SDHC/SDXC 2slot Max. 2TB(1TBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                     | Micro SD/SDHC/SDXC 2slot Max. 2TB(1TBx2)                                                                                            |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI (HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                      | ONVIF Profile S/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                         | ONVIF Profile S/T/M, SUNAPI(HTTP API)<br>Wisenet open platform                                                                      |
| Operating Temperature / Humidity  | -40°C~+50°C(-40°F~+122°F)<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C0~95% RH(non-condensing)                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                      | -40°C~+55°C(-40°F~+131°F)<br>* Start up should be done at above -35°C<br>0~95% RH(non-condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                          | -40°C~+55°C(-40°F~+131°F)<br>* Start up should be done at above -35°C<br>0~95% RH(non-condensing)<br>Humidity control with AIR vent |
| Certification                     | IP66, IK10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                      | IP66, IK10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IP66, IK10, NEMA4X                                                                                                                  |
| Power Consumption                 | HPoE: Max 64.00W, typical 45.00W                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                      | PoE+: Max 25.5W, typical 22.0W<br>PoE++: Max 33.0W, typical 22.0W                                                                                                                                                                                                                                                                                                                                                                                                            | PoE+: Max 25.5W, typical 22.0W<br>PoE++: Max 33.0W, typical 22.0W                                                                   |
| Product Dimensions / Weight       | ø 140x110.2mm(ø 5.51x4.34"), 875g(1.93 lb)                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                      | ø 250x114.2mm(ø 9.84x4.50"), 2730g(6.02 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                  | ø 250x114.2mm(ø 9.84x4.50"), 2820g(6.22 lb)                                                                                         |



**PNM-C32084RQZ**  
4K x 4 AI PTRZ Multi-directional Dome  
compatible with NVIDIA Jetson device



**PNM-C32083RQZ**  
4K x 4 AI PTRZ Multi-directional Dome



**PNM-C16083RQZ**  
4MP x 4 AI IR Multi-directional Dome

|                                   |                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS x 4CH                                                                                                                          | 1/1.8" CMOS x 4CH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/2.8" CMOS x 4CH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Resolution / Max. Frame Rate      | [AI On] 8MP Max. 15fps, [AI Off] 8MP Max. 20fps                                                                                            | [AI On] 8MP Max. 15fps, [AI Off] 8MP Max. 20fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4MP/30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Min. Illumination                 | Color: 0.07Lux (F1.3, 1/30sec, 30IRE)<br>BW: 0Lux (IR LED on)                                                                              | Color: 0.07Lux (F1.3, 1/30sec, 30IRE)<br>BW: 0Lux (IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Color: 0.1Lux (F1.6, 1/30sec, 30IRE)<br>BW: 0.01Lux (F1.6 1/30sec, 30IRE), 0Lux (IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Video Out                         | —                                                                                                                                          | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Focal Length (Zoom Ratio)         | 4.38 ~ 9.33mm (2.13x) motorized varifocal                                                                                                  | 4.38 ~ 9.33mm (2.13x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.2 ~ 10.2mm (3.2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Angular Field of View             | H: 113° (Wide) ~ 47° (Tele),<br>V: 58° (Wide) ~ 26° (Tele),<br>D: 138° (Wide) ~ 54° (Tele)                                                 | H: 113° (Wide) ~ 47° (Tele),<br>V: 58° (Wide) ~ 26° (Tele),<br>D: 138° (Wide) ~ 54° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                              | H: 95° (Wide) ~ 29° (Tele),<br>V: 69° (Wide) ~ 21° (Tele),<br>D: 126° (Wide) ~ 36° (Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pan / Tilt / Rotate               | Remote adjustment (Max. 200cycles)<br>0~360° / 30° ~ 90° / 0° ~ 90°                                                                        | Remote adjustment (Max. 200cycles)<br>0~360° / 30° ~ 90° / 0° ~ 90°                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Remote adjustment (Max. 200cycles)<br>0~360° / 30° ~ 90° / 0° ~ 90°                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IR Viewable Length                | —                                                                                                                                          | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Day & Night                       | Auto (ICR)                                                                                                                                 | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Wide Dynamic Range                | 120dB                                                                                                                                      | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Digital Noise Reduction           | SSNRV, WiseNR II (Based on AI engine)                                                                                                      | SSNRV, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SSNRV, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Digital Image Stabilization       | —                                                                                                                                          | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Analytics                         | <b>Analytics events</b> – Defocus detection, Motion detection, Tampering, Audio detection, Sound classification                            | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: Car/Bus/Truck/Motorcycle/Bicycle, Color), Person (Clothing color)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b> – Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> – Defocus detection, Motion detection, Tampering, Virtual area (Appear/Disappear)<br>*Audio detection, Sound classification (with NW I/O box SPM-4210) | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: Car/Bus/Truck/Motorcycle/Bicycle, Color), Person (Clothing color)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b> – Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> – Defocus detection, Motion detection, Tampering, Virtual area (Appear/Disappear)<br>*Audio detection, Sound classification (with NW I/O box SPM-4210) |
| Business Intelligence             | —                                                                                                                                          | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Alarm I/O                         | 2 configurable I/O ports<br>*Support Alarm via optional SPM-4210 I/O box                                                                   | 2 configurable I/O ports<br>*Support Alarm via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 configurable I/O ports<br>*Support Alarm via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Audio I/O                         | Support Audio via optional SPM-4210 I/O box                                                                                                | Support Audio via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Support Audio via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                              | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WiseStream                        | Manual (5ea area), WiseStream II                                                                                                           | Manual (5ea area), WiseStream II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Manual (5ea area), WiseStream II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Streaming                         | Unicast (10 users) / Multicast<br>Multiple streaming (Up to 3 profiles per CH)                                                             | Unicast (10 users) / Multicast<br>Multiple streaming (Up to 3 profiles per CH)                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unicast (10 users) / Multicast<br>Multiple streaming (Up to 3 profiles per CH)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)                                                                                                | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Application Programming Interface | ONVIF Profile G/S/T/M, SUNAPI (HTTP API), Hanwha Vision Open Platform                                                                      | ONVIF Profile G/S/T/M, SUNAPI (HTTP API), Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ONVIF Profile G/S/T/M, SUNAPI (HTTP API), Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Operating Temperature / Humidity  | -40°C ~ +55°C (-40°F ~ +131°F)<br>* Start up should be done at above -20°C<br>0~100% RH (non-condensing)<br>Humidity control with AIR vent | -40°C ~ +55°C (-40°F ~ +131°F)<br>* Start up should be done at above -20°C<br>0~100% RH (non-condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                              | -40°C ~ +55°C (-40°F ~ +131°F)<br>* Start up should be done at above -20°C<br>0~100% RH (non-condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                              |
| Certification                     | IP66, NEMA4X, IK10                                                                                                                         | IP66, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IP66, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Power Consumption                 | HPoE: Max 66.0W, Typical 40.0W (Orin NX 8GB)<br>Max 71.0W, Typical 40.0W (Orin NX 16GB)                                                    | PoE++ Max TBD, Typical TBD<br>PoE + Max TBDW, TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PoE++ Max TBD, Typical TBD<br>PoE + Max TBDW, TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Product Dimensions / Weight       | ø 315x180mm (ø 12.40x7.09"),<br>6100g (13.45lb)                                                                                            | ø 315x145.9mm (ø 12.40x5.74"),<br>5.2kg (11.5lb) TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ø 315x145.9mm (ø 12.40x5.74"),<br>5.2kg (11.5lb) TBD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



**PNM-C16013RVQ**  
4MP x 4CH AI Camera



**PNM-C12083RVD**  
6MP x 2CH AI Multi-directional Camera



**PNM-C7083RVD**  
2MP x 2CH AI Multi-directional Camera



**PNM-C9022RV**  
8MP x 4CH AI Multi-directional Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                    |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS x 4CH                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1/2.8" CMOS x 2CH                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1/2.8" CMOS x 2CH                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1/2.8" CMOS x 4CH                                                                                  |
| Resolution / Max. Frame Rate      | 4MP / 15fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 6MP / 15fps                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8MP / 20fps x 4CH                                                                                  |
| Min. Illumination                 | Color: 0.05Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                     | Color: 0.16lux(F1.67, 1/30sec, 30IRE)<br>BW: 0.016lux(F1.67, 1/30sec, 30IRE), 0lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                             | Color: 0.035lux(F2.2, 1/30sec, 30IRE)<br>BW: 0.0035lux(F2.2, 1/30sec, 30IRE), 0lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                          | Color: 0.1Lux(F2.0, 1/30sec)<br>BW: 0.01Lux(F2.0, 1/30sec), 0Lux(IR LED on)                        |
| Video Out                         | USB: Micro USB Type B, 2592x1520 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                               | USB: micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                          | USB: micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                       | USB: Micro USB Type B, 1280x720 for installation                                                   |
| Focal Length (Zoom Ratio)         | 3.19mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.54~6.69mm(1.9x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3~6mm(2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.8mm fixed focal(x4)                                                                              |
| Angular Field of View             | H: 97° / V: 54° / D: 116°                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H: 96° (Wide) ~ 47° (Tele)<br>V: 51° (Wide) ~ 26° (Tele)<br>D: 113° (Wide) ~ 54° (Tele)                                                                                                                                                                                                                                                                                                                                                                                   | H: 107° (Wide) ~ 56° (Tele)<br>V: 57° (Wide) ~ 31° (Tele)<br>D: 126° (Wide) ~ 64° (Tele)                                                                                                                                                                                                                                                                                                                                                               | H: 209° / V: 60°                                                                                   |
| Pan / Tilt / Rotate               | 0~360° (100° per CH) / 0~75° / 0~90°                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0° ~ 355° / 0° ~ 78° / 0° ~ 180°                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0° ~ 355° / 0° ~ 78° / 0° ~ 180°                                                                                                                                                                                                                                                                                                                                                                                                                       | 0° ~ 360° / 0° ~ 65° / -                                                                           |
| IR Viewable Length                | 20m(65.62ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 25m (82ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 25m (82ft)                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20m (65.62ft)                                                                                      |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                             | Auto (ICR)                                                                                         |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                     | extremeWDR (120dB)                                                                                 |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                          | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                    | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                 | WiseNR II (Based on AI engine), SSNR V                                                             |
| Digital Image Stabilization       | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                    |
| Analytics                         | <b>Classified object type:</b><br>Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle<br>(Type: Car/Bus/Truck/Motorcycle/Bicycle)<br><b>Support Detection shot</b><br><b>Analytics events based on AI engine</b><br>- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> - Motion detection, Tampering, Virtual area(Appear/Disappear)<br>Audio detection, Sound classification (with NW I/O box SPM-4210) | <b>Classified object type:</b> Person/Face/Vehicle/License plate<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b><br>- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear) | <b>Classified object type:</b> Person/Vehicle<br><b>Attributes:</b> Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b><br>- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear) |                                                                                                    |
| Business Intelligence             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                    |
| Alarm I/O                         | 2 configurable I/O ports<br>* Support extra alarm I/O via optional SPM-4210I/O box                                                                                                                                                                                                                                                                                                                                                                                                              | Support Alarm via optional SPM-4210I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                | Support Alarm via optional SPM-4210I/O box                                                                                                                                                                                                                                                                                                                                                                                                             | 2 configurable I/O ports                                                                           |
| Audio I/O                         | Selectable (mic in/line in) / -                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Audio in/out via optional SPM-4210I/O box                                                                                                                                                                                                                                                                                                                                                                                                                                 | Audio in/out via optional SPM-4210I/O box                                                                                                                                                                                                                                                                                                                                                                                                              | Selectable (mic in/line in) / Line out                                                             |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                    |
| WiseStream                        | Manual(5ea area), WiseStream II, WiseStream III<br>(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                         | WiseStream II, WiseStream III<br>(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                     | Manual(5ea area), WiseStream II, WiseStream III<br>(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                | Manual(5ea area), WiseStream II, WiseStream III<br>(Based on AI engine)                            |
| Streaming                         | Up to 4 profiles per channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unicast (10 users) / Multicast<br>5 profiles per channel                                                                                                                                                                                                                                                                                                                                                                                                                  | Unicast (10 users) / Multicast<br>5 profiles per channel                                                                                                                                                                                                                                                                                                                                                                                               | Unicast (20 users) / Multicast Multiple streaming<br>(Up to 3 profiles, 2 virtual channel support) |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)                                                                                                                                                                                                                                                                                                                                                                                                                                                      | micro SD/SDHC/SDXC 1slot Max. 512GB                                                                                                                                                                                                                                                                                                                                                                                                                                       | micro SD/SDHC/SDXC 1slot Max. 512GB                                                                                                                                                                                                                                                                                                                                                                                                                    | micro SD/SDHC/SDXC 2slot Max. 1TB(512GB * 2)                                                       |
| Application Programming Interface | ONVIF Profile S/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                            | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Open platform                                                                                                                                                                                                                                                                                                                                                                                                                      | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Open platform                                                                                                                                                                                                                                                                                                                                                                                                   | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                             |
| Operating Temperature / Humidity  | -40°C ~ +55°C (-40°F ~ +131°F)<br>* Start up should be done at above -35°C<br>0~95% RH(non-condensing)<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                        | -40°C ~ +55°C (-40°F ~ +131°F) /<br>Less than 95% RH(Non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                      | -40°C ~ +55°C (-40°F ~ +131°F) /<br>Less than 95% RH(Non-condensing)                                                                                                                                                                                                                                                                                                                                                                                   | -40°C ~ +55°C (-40°F ~ +131°F) /<br>0~95% RH(non-condensing)                                       |
| Certification                     | IP66, NEMA4X, IK09                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IP66, IP67, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                  | IP66, IP67, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                               | IP66, IK10, NEMA4X                                                                                 |
| Power Consumption                 | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | PoE+: Max 21W, typical 16.5W                                                                                                                                                                                                                                                                                                                                                                                                                                              | PoE+: Max 20W, typical 15.5W                                                                                                                                                                                                                                                                                                                                                                                                                           | PoE+: Max 24.5W, typical 11.3W<br>12VDC: Max 22.0W, typical 10.4W<br>Power redundancy failover     |
| Product Dimensions / Weight       | ø 200x80mm(ø 7.87x3.15"),<br>1380g(3.04lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67"),<br>1330g                                                                                                                                                                                                                                                                                                                                                                                                                      | 215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67"),<br>1330g                                                                                                                                                                                                                                                                                                                                                                                                   | ø 253x170mm(9.96"x6.69"),<br>2900g(6.39lb)                                                         |





**QNE-C9013RL**  
8MP AI Dual Light Flateye Camera



**QNE-C8013RL**  
5MP AI Dual Light Flateye Camera



**QNO-C9083R**  
8MP IR Bullet Camera



**QNO-C8083R**  
5MP IR Bullet Camera



**QNO-C6083R**  
2MP IR Bullet Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Resolution / Max. Frame Rate      | 8MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5MP/30fps                                                                                                           | 8MP/30fps                                                                                                                            | 5MP/30fps                                                                                                                            | 2MP/30fps                                                                                      |
| Min. Illumination                 | Color: 0.034Lux (F1.6, 1/30sec)<br>BW: 0.0034Lux (F1.6, 1/30sec, 30IRE),<br>0Lux (IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Color: 0.022Lux (F1.2, 1/30sec)<br>BW: 0.0022Lux (F1.2, 1/30sec, 30IRE),<br>0Lux (IR LED on)                        | Color: 0.06Lux (F1.6, 1/30sec, 30IRE)<br>BW: 0.006Lux (F1.6, 1/30sec, 30IRE),<br>0Lux (IR LED on)                                    | Color: 0.07Lux (F1.6, 1/30sec, 30IRE)<br>BW: 0.007Lux (F1.6, 1/30sec, 30IRE),<br>0Lux (IR LED on)                                    | Color: 0.04Lux (F1.6, 1/30sec)<br>BW: 0.004Lux (F1.6, 1/30sec, 30IRE),<br>0Lux (IR LED on)     |
| Video Out                         | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | –                                                                                                                   | USB: Micro USB Type B,<br>1280x720 for installation                                                                                  | USB: Micro USB Type B,<br>1280x720 for installation                                                                                  | USB: Micro USB Type B,<br>1280x720 for installation                                            |
| Focal Length (Zoom Ratio)         | 3.0mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3.0mm fixed focal                                                                                                   | 3.2~10.2mm (3.2x) motorized varifocal                                                                                                | 3.2~10.2mm (3.2x) motorized varifocal                                                                                                | 3.2~10.2mm (3.2x) motorized varifocal                                                          |
| Angular Field of View             | H: 108° / V: 59° / D: 127°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H: 97° / V: 53° / D: 113°                                                                                           | H: 104° (Wide)~31° (Tele)<br>V: 55° (Wide)~17° (Tele)<br>D: 124° (Wide)~35° (Tele)                                                   | H: 95° (Wide)~29° (Tele)<br>V: 69° (Wide)~21° (Tele)<br>D: 126° (Wide)~36° (Tele)                                                    | H: 102.0° (Wide)~32.2° (Tele)<br>V: 54.2° (Wide)~18.3° (Tele)<br>D: 119.0° (Wide)~36.7° (Tele) |
| Pan / Tilt / Rotate               | 0°~350° / 0°~75° / 0°~360°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0°~350° / 0°~75° / 0°~360°                                                                                          | 0°~360° / 0°~100° / 0°~360°                                                                                                          | 0°~360° / 0°~100° / 0°~360°                                                                                                          | 0°~360° / 0°~100° / 0°~360°                                                                    |
| IR Viewable Length                | White LED : 30m (98.42ft)<br>IR : 30m (98.42ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | White LED : 30m (98.42ft)<br>IR : 30m (98.42ft)                                                                     | 30m (98.42ft)                                                                                                                        | 30m (98.42ft)                                                                                                                        | 40m (131.23ft)                                                                                 |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 120dB                                                                                                               | 120dB                                                                                                                                | 120dB                                                                                                                                | 120dB                                                                                          |
| Digital Noise Reduction           | SSNR V, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SSNR V, WiseNR II (Based on AI engine)                                                                              | SSNR V, WiseNR II (Based on AI engine)                                                                                               | SSNR V, WiseNR II (Based on AI engine)                                                                                               | SSNR V, WiseNR II (Based on AI engine)                                                         |
| Digital Image Stabilization       | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | –                                                                                                                   | –                                                                                                                                    | –                                                                                                                                    | –                                                                                              |
| Analytics                         | <p><b>Classified object type:</b> Person/Vehicle<br/> <b>Attributes:</b> Person, Vehicle (Type: car/bus/truck/motorcycle/bicycle)<br/> <b>Support BestShot per object</b><br/> <b>Analytics events based on AI engine</b> – Object detection, Virtual line* (Crossing/Direction), Virtual area* (Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&amp;Fall detection, Motion Detection<br/> <b>Analytics events</b> – Defocus detection, Tampering, Virtual area (Appear/Disappear)<br/> <b>Support WiseDetector for Adding custom objects</b><br/>           *Some of the video analytics only works with people and vehicle detection</p> |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Business Intelligence             | Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Alarm I/O                         | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | –                                                                                                                   | Input 1ea / Output 1ea                                                                                                               | Input 1ea / Output 1ea                                                                                                               | Input 1ea / Output 1ea                                                                         |
| Audio I/O                         | –                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | –                                                                                                                   | Selectable (mic in/line in) / Line out                                                                                               | Selectable (mic in/line in) / Line out                                                                                               | Selectable (mic in/line in) / Line out                                                         |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | H.265/H.264: Main/High, MJPEG                                                                                       | H.265/H.264: Main/High, MJPEG                                                                                                        | H.265/H.264: Main/High, MJPEG                                                                                                        | H.265/H.264: Main/High, MJPEG                                                                  |
| WiseStream                        | Manual (5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Streaming                         | Unicast (20 users) / Multicast Multiple streaming (Up to 5 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Micro SD/SDHC/SDXC 1slot 256GB                                                                                      | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                 |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI (HTTP API), Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                     |                                                                                                                                      |                                                                                                                                      |                                                                                                |
| Operating Temperature / Humidity  | –40°C~+60°C (–40°F~+140°F) / 0~95% RH<br>* Start up should be done at above –30°C<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | –40°C~+60°C (–40°F~+140°F) / 0~95% RH<br>* Start up should be done at above –30°C<br>Humidity control with AIR vent | –30°C~+55°C (–22°F~+131°F) / 0~95% RH (non-condensing)<br>* Start up should be done at above –30°C<br>Humidity control with AIR vent | –30°C~+55°C (–22°F~+131°F) / 0~95% RH (non-condensing)<br>* Start up should be done at above –30°C<br>Humidity control with AIR vent | –40°C~+55°C (–40°F~+131°F) / 0~95% RH (non-condensing)<br>Humidity control with AIR vent       |
| Certification                     | IP66/IP67, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | IP66/IP67, IK10                                                                                                     | IP66, IK10                                                                                                                           | IP66, IK10                                                                                                                           | IP66, IK10                                                                                     |
| Power Consumption                 | PoE: Max 10.0W, typical 4.5W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PoE: Max 10.0W, typical 4.5W                                                                                        | PoE: Max 12W, typical 5.3W                                                                                                           | PoE: Max 12W, typical 5.3W                                                                                                           | PoE: Max 8.9W, typical 3.7W                                                                    |
| Product Dimensions / Weight       | ø 140.0x99.6mm (ø 5.51x3.92"),<br>790g (1.74 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ø 140.0x99.6mm (ø 5.51x3.92"),<br>790g (1.74 lb)                                                                    | ø 93.4x245.8mm (ø 3.68x9.68"),<br>930g (2.05 lb)                                                                                     | ø 93.4x245.8mm (ø 3.68x9.68"),<br>930g (2.05 lb)                                                                                     | ø 93.4x245.8mm (ø 3.68x9.68"),<br>930g (2.05 lb)                                               |



**QNV-C9083R**  
8MP IR Vandal Dome Camera



**QNV-C8083R**  
5MP IR Vandal Dome Camera



**QNV-C6083R**  
2MP IR Vandal Dome Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                    |                                                                                                                                                    |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                    |                                                                                                                                                    |
| Resolution / Max. Frame Rate      | 8MP/30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5MP / 30fps                                                                                                                        | 2MP / 30fps                                                                                                                                        |
| Min. Illumination                 | Color: 0.06Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.006Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Color: 0.07Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.007Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                                        | Color: 0.04Lux (F1.6, 1/30sec)<br>BW: 0.004Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                                                             |
| Video Out                         | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | USB: Micro USB Type B, 1280x720 for installation                                                                                   | USB: Micro USB Type B, 1280x720 for installation<br>HDMI: 1080p@30/25fps (60/50Hz)<br>* HDMI out is supported through an optional cable(SPP-C1900) |
| Focal Length (Zoom Ratio)         | 3.2~10.2mm(3.2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3.2~10.2mm(3.2x) motorized varifocal                                                                                               | 3.2~10.2mm(3.2x) motorized varifocal                                                                                                               |
| Angular Field of View             | H: 104°(Wide)~31°(Tele)<br>V: 55°(Wide)~17°(Tele)<br>D: 124°(Wide)~35°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | H: 95°(Wide)~29°(Tele)<br>V: 69°(Wide)~21°(Tele)<br>D: 126°(Wide)~36°(Tele)                                                        | H: 102.0°(Wide)~32.2°(Tele)<br>V: 54.2°(Wide)~18.3°(Tele)<br>D: 119.0°(Wide)~36.7°(Tele)                                                           |
| Pan / Tilt / Rotate               | 0°~350° / -35°~70° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0°~350° / -35°~70° / 0°~355°                                                                                                       | 0°~350° / -35°~70° / 0°~355°                                                                                                                       |
| IR Viewable Length                | 30m(98.42ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 30m(98.42ft)                                                                                                                       | 40m(131.23ft)                                                                                                                                      |
| Day & Night                       | Auto (ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                    |                                                                                                                                                    |
| Wide Dynamic Range                | 120db                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                    |                                                                                                                                                    |
| Digital Noise Reduction           | SSNR V, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                    |                                                                                                                                                    |
| Digital Image Stabilization       | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                    |                                                                                                                                                    |
| Analytics                         | <p><b>Classified object type:</b> Person/Vehicle<br/> <b>Attributes:</b> Person, Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br/> <b>Support DetectionShot</b><br/> <b>Analytics events based on AI engine</b><br/>           - Motion detection*, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit)<br/> <b>Analytics events</b><br/>           - Defocus detection, Tampering, Virtual area(Appear/Disappear)<br/>           * Some of the video analytics only works with people and vehicle detection</p> |                                                                                                                                    |                                                                                                                                                    |
| Business Intelligence             | Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                    |                                                                                                                                                    |
| Alarm I/O                         | Input 1ea / Output 1ea<br>* Alarm I/O is supported through an optional cable(SPP-C7400)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                    |                                                                                                                                                    |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Selectable(mic in/line in) / Line out                                                                                              | Selectable(mic in/line in) / Line out                                                                                                              |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | H.265/H.264: Main/High, MJPEG                                                                                                      | H.265/H.264: Main/High, MJPEG                                                                                                                      |
| WiseStream                        | Manual(5ea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Manual(5ea area), WiseStream III (Based on AI engine)                                                                              | Manual(5ea area), WiseStream III                                                                                                                   |
| Streaming                         | Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                    |                                                                                                                                                    |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                     | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                     |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                    |                                                                                                                                                    |
| Operating Temperature / Humidity  | -30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above -30°C<br>Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                                                | -30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above -30°C<br>Humidity control with AIR vent | -40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing)<br>Humidity control with AIR vent                                                             |
| Certification                     | IP66, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | IP66, IK10                                                                                                                         | IP66, IK10                                                                                                                                         |
| Power Consumption                 | PoE: Max 12.95W, typical 5.3W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PoE: Max 12.95W, typical 5.3W                                                                                                      | PoE: Max 9.8W, typical 4.0W                                                                                                                        |
| Product Dimensions / Weight       | ø 140x110.2mm(ø 5.51x4.34"), 875g(1.93 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ø 140x110.2mm(ø 5.51x4.34"), 875g(1.93 lb)                                                                                         | ø 140x110.2mm(ø 5.51x4.34"), 850g(1.87 lb)                                                                                                         |



**QNV-C9011R**  
8MP IR Vandal Dome Camera



**QNV-C8011R**  
5MP IR Vandal Dome Camera



**QNV-C8012**  
5MP Vandal Dome Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                           |                                                                                                                           |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1/2.8" CMOS                                                                                                               | 1/2.8" CMOS                                                                                                               |
| Resolution / Max. Frame Rate      | 8MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5MP / 30fps                                                                                                               | 5MP / 30fps                                                                                                               |
| Min. Illumination                 | Color: 0.03Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Color: 0.03Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)                               | Color: 0.05Lux(F2.0, 1/30sec, 30IRE)<br>BW: 0.005Lux(F2.0, 1/30sec, 30IRE)                                                |
| Video Out                         | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | USB: Micro USB Type B, 1280x720 for installation                                                                          | USB: Micro USB Type B, 1280x720 for installation                                                                          |
| Focal Length (Zoom Ratio)         | 3.0mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.0mm fixed focal                                                                                                         | 2.4mm fixed focal                                                                                                         |
| Angular Field of View             | H: 108° / V: 59° / D: 127°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H: 100° / V: 73° / D: 129°                                                                                                | H: 123° / V: 91° / D: 159°                                                                                                |
| Pan / Tilt / Rotate               | 0°~350° / -35°~70° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0°~350° / -35°~70° / 0°~355°                                                                                              | 0°~350° / -35°~70° / 0°~355°                                                                                              |
| IR Viewable Length                | 20m(65.62ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20m(65.62ft)                                                                                                              | —                                                                                                                         |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                           |                                                                                                                           |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                           |                                                                                                                           |
| Digital Noise Reduction           | SSNR V, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                           |                                                                                                                           |
| Digital Image Stabilization       | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | —                                                                                                                         | —                                                                                                                         |
| Analytics                         | <p><b>Classified object type:</b> Person/Vehicle<br/> <b>Attributes:</b> Person, Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br/> <b>Support DetectionShot</b><br/> <b>Analytics events based on AI engine</b><br/>           - Motion detection*, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit)<br/> <b>Analytics events</b><br/>           - Defocus detection, Tampering, Virtual area(Appear/Disappear)<br/>           * Some of the video analytics only works with people and vehicle detection</p> |                                                                                                                           |                                                                                                                           |
| Business Intelligence             | Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                           |                                                                                                                           |
| Alarm I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | —                                                                                                                         | —                                                                                                                         |
| Audio I/O                         | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | —                                                                                                                         | —                                                                                                                         |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | H.265/H.264: Main/High, MJPEG                                                                                             | H.265/H.264: Main/High, MJPEG                                                                                             |
| WiseStream                        | Manual(Sea area), WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Manual(Sea area), WiseStream III (Based on AI engine)                                                                     | Manual(Sea area), WiseStream III (Based on AI engine)                                                                     |
| Streaming                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 5 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 5 profiles)                                                     | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 5 profiles)                                                     |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Micro SD/SDHC/SDXC 1slot 256GB                                                                                            | Micro SD/SDHC/SDXC 1slot 256GB                                                                                            |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                    | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                    |
| Operating Temperature / Humidity  | -40°C~-55°C(-40°F~-131°F) / 0~95% RH<br>* Start up should be done at above -30°C<br>Humidity control with AIR vent vapor control                                                                                                                                                                                                                                                                                                                                                                                                                                  | -40°C~-55°C(-40°F~-131°F) / 0~95% RH<br>* Start up should be done at above -30°C<br>Humidity control /w Air vapor control | -40°C~-55°C(-40°F~-131°F) / 0~95% RH<br>* Start up should be done at above -30°C<br>Humidity control /w Air vapor control |
| Certification                     | IP66, IK 10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IP66, IK 10, NEMA4X                                                                                                       | IP66, IK 10, NEMA4X                                                                                                       |
| Power Consumption                 | PoE: Max 8.5W, typical 4.9W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PoE: Max 7W, typical 4.9W                                                                                                 | PoE: Max 7W, typical 4.9W                                                                                                 |
| Product Dimensions / Weight       | ø 110x77mm(ø 4.33x3.03"), 522g(1.15 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ø 110x77mm(ø 4.33x3.03"), 522g(1.15 lb)                                                                                   | ø 110x77mm(ø 4.33x3.03"), 522g(1.15 lb)                                                                                   |



TNO-C3032TRA



TNO-C3022TRA



TNO-C3012TRA



TNO-C3030TRA



TNO-C3020TRA



TNO-C3010TRA

## QVGA Radiometric AI Thermal Camera

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |                                                   |                                                    |                                                  |                                                   |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|----------------------------------------------------|--------------------------------------------------|---------------------------------------------------|
| Imaging Device                    | Uncooled micro bolometer (Spectral range: 8~14μm)                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                  |                                                   |                                                    |                                                  |                                                   |
| Resolution                        | 768x576, 384x288(original)                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |                                                   |                                                    |                                                  |                                                   |
| Max. Frame Rate                   | TNO-C30x2TRA : Max. 8fps / TNO-C30x0TRA: Max. 30fps                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                                                   |                                                    |                                                  |                                                   |
| NETD                              | < 30mK                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                                                   |                                                    |                                                  |                                                   |
| Pixel pitch                       | 17μm                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                                                   |                                                    |                                                  |                                                   |
| Focal Length                      | 9.7mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6.6mm fixed focal                                | 4.4mm fixed focal                                 | 9.7mm fixed focal                                  | 6.6mm fixed focal                                | 4.4mm fixed focal                                 |
| Angular Field of View             | H: 37.9° / V: 28.7° / D: 46.7°<br>(iFoV: 1.8 mRad)                                                                                                                                                                                                                                                                                                                                                                                                                       | H: 60° / V: 43.8° / D: 77.8°<br>(iFoV: 2.6 mRad) | H: 90° / V: 65.3° / D: 118.6°<br>(iFoV: 3.9 mRad) | H: 37.9° / V: 28.7° / D: 46.7°<br>(iFoV: 1.8 mRad) | H: 60° / V: 43.8° / D: 77.8°<br>(iFoV: 2.6 mRad) | H: 90° / V: 65.3° / D: 118.6°<br>(iFoV: 3.9 mRad) |
| Min. Object Distance              | 2.8m                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.4m                                             | 0.6m                                              | 2.8m                                               | 1.4m                                             | 0.6m                                              |
| Video out                         | USB: Micro USB Type B, 768x576 for installation                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |                                                   |                                                    |                                                  |                                                   |
| Analytics                         | <b>Classified object type:</b> Person/Vehicle<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b><br>- WiseMD, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>- Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and vehicle detection |                                                  |                                                   |                                                    |                                                  |                                                   |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                                                   |                                                    |                                                  |                                                   |
| Audio I/O                         | Selectable(mic in/line in) Line out                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                                                   |                                                    |                                                  |                                                   |
| Temperature Detect Range          | -40°C~550°C(-40°F~1,022°F)                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |                                                   |                                                    |                                                  |                                                   |
| Temperature Accuracy              | below 150°C: up to ± 2°C<br>Above 150°C: up to ± 15%<br>* based on measurements in a room temperature environment. Auto Temperature mode                                                                                                                                                                                                                                                                                                                                 |                                                  |                                                   |                                                    |                                                  |                                                   |
| Temperature Detection             | 10 Polygonal ROI zones, whole FoV area                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                                                   |                                                    |                                                  |                                                   |
| Additional                        | Hybrid palettes, Spot temperature reading<br>(ROI condition monitoring: Above/ Below/ Increase/ Decrease)                                                                                                                                                                                                                                                                                                                                                                |                                                  |                                                   |                                                    |                                                  |                                                   |
| WiseStream                        | Manual(5ea area), WiseStream II, WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                                                   |                                                    |                                                  |                                                   |
| Streaming                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                                                   |                                                    |                                                  |                                                   |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot Max. 1TB                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                  |                                                   |                                                    |                                                  |                                                   |
| Application Programming Interface | ONVIF Profile S/G/T/M, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                                                   |                                                    |                                                  |                                                   |
| Memory                            | 2GB RAM, 512MB Flash                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                                                   |                                                    |                                                  |                                                   |
| Operating Temperature             | -40°C~+60°C(-40°F~+140°F) / 0~95% RH(non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                                                   |                                                    |                                                  |                                                   |
| Certification                     | IP66, IK 10, NEMA4X                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                                                   |                                                    |                                                  |                                                   |
| Power Consumption                 | PoE: Max 10.8W, typical 9W<br>12VDC: Max 9.4W, typical 7.7W                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                                                   |                                                    |                                                  |                                                   |
| Dimensions (WxHxD) / Weight       | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb)                                                                                                                                                                                                                                                                                                                                                                                                                         | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb) | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb)  | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb)   | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb) | ø 93.8x233.5mm(ø 3.69X/9.19"),<br>1700g(3.75 lb)  |



**TNM-C4960TD**  
Bi-spectrum AI Thermal Camera



**TNM-C4950TD**  
Bi-spectrum AI Thermal Camera

| Imaging Device                    | Thermal                                                                                                                                                                                                                                       | Visible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Thermal                                                                                                                                                                                                                                       | Visible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <60mK)                                                                                                                                                                             | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <60mK)                                                                                                                                                                             | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Resolution / Max. Frame Rate      | 640x480 / 30fps                                                                                                                                                                                                                               | 3840x2160 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 640x480 / 30fps                                                                                                                                                                                                                               | 3840x2160 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Min. Illumination                 | —                                                                                                                                                                                                                                             | Color: 0.06Lux(F1.7, 1/30sec)<br>BW: 0.005Lux(F1.7, 1/30sec)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | —                                                                                                                                                                                                                                             | Color: 0.06Lux(F1.7, 1/30sec)<br>BW: 0.005Lux(F1.7, 1/30sec)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Video Out                         | USB : Micro USB Type B                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | USB : Micro USB Type B, 1280x720 for installation                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Focal Length (Zoom Ratio)         | 25mm fixed focal                                                                                                                                                                                                                              | 10.9~29mm(2.6x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 13.5mm fixed focal                                                                                                                                                                                                                            | 10.9~29mm(2.6x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Angular Field of View             | H: 17.4°, V: 13.1°, D: 21.6°<br>(iFoV: 0.48 mRad)                                                                                                                                                                                             | H:42.0°(Wide)~15.0°(Tele) /<br>V:22.8°(Wide)~8.4°(Tele) /<br>D:48.7°(Wide)~17.1°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                               | H: 31.9° V: 24.2°, D: 39.5°<br>(iFoV: 0.89 mRad)                                                                                                                                                                                              | H:42.0°(Wide)~15.0°(Tele) /<br>V:22.8°(Wide)~8.4°(Tele) /<br>D:48.7°(Wide)~17.1°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pan / Tilt / Rotate               | -170° ~ +170° / -40° ~ 50° / -                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -170° ~ +170° / -40° ~ 50° / -                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IR Viewable Length                | —                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | —                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Day & Night                       | —                                                                                                                                                                                                                                             | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                                                                                                                                             | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Wide Dynamic Range                | —                                                                                                                                                                                                                                             | WDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | —                                                                                                                                                                                                                                             | WDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Digital Noise Reduction           | —                                                                                                                                                                                                                                             | SSNR V, WiseNR II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                             | SSNR V, WiseNR II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Digital Image Stabilization       | —                                                                                                                                                                                                                                             | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | —                                                                                                                                                                                                                                             | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Analytics                         | <b>Analytics events based on AI engine :</b><br>Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Motion detection | <b>Analytics events based on AI engine</b><br>— Object detection(Person, face, Vehicle(car/bus/truck/motorcycle/bicycle), License plate), Bestshot, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and vehicle detection | <b>Analytics events based on AI engine :</b><br>Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Motion detection | <b>Analytics events based on AI engine</b><br>— Object detection(Person, face, Vehicle(car/bus/truck/motorcycle/bicycle), License plate), Bestshot, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and vehicle detection |
| Business Intelligence             | Vehicle counting                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vehicle counting                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Alarm I/O                         | 4 configurable I/O ports                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4 configurable I/O ports                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Audio I/O                         | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1 Vrms                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1 Vrms                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WiseStream                        | WiseStream II                                                                                                                                                                                                                                 | Manual(5ea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | WiseStream II                                                                                                                                                                                                                                 | Manual(5ea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Streaming                         | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform (visible channel only)                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Operating Temperature / Humidity  | -40°C to +60°C(-58°F to +140°F)<br>* Start up should be done at above -30°C less than 95% RH(non-condensing)                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -40°C to +60°C(-58°F to +140°F)<br>* Start up should be done at above -30°C less than 95% RH(non-condensing)                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Certification                     | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Power Consumption                 | PoE+ : Max 23.5W, Typ 16.0W<br>12VDC : Max 19.5W, Typ 14.0W                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | PoE+ : Max 23.5W, Typ 16.0W<br>12VDC : Max 19.5W, Typ 14.0W                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product Dimensions / Weight       | 353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4.53kg(9.99lb)                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4.53kg(9.99lb)                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |





**TNM-C4940TD**  
Bi-spectrum AI Thermal Camera



**TNM-C4942TDR**  
Radiometry Bi-spectrum AI Thermal Camera

| Imaging Device                    | Thermal                                                                                                                                                                                                                                       | Visible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Thermal                                                                                                                                                                                                                                                                                         | Visible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <60mK)                                                                                                                                                                             | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <60mK)                                                                                                                                                                                                                               | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Resolution / Max. Frame Rate      | 1280x960 / 30fps                                                                                                                                                                                                                              | 3840x2160 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1280x960 / 8fps                                                                                                                                                                                                                                                                                 | 3840x2160 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Min. Illumination                 | —                                                                                                                                                                                                                                             | Color: 0.06Lux(F1.3, 1/30sec)<br>BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                                                                                                                                                                                               | Color: 0.06Lux(F1.3, 1/30sec)<br>BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Video Out                         | USB : Micro USB Type B, 1280x720 for installation                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | USB : Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Focal Length (Zoom Ratio)         | 9.1mm fixed focal                                                                                                                                                                                                                             | 4.4~9.3mm(2.2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9.1mm fixed focal                                                                                                                                                                                                                                                                               | 4.4~9.3mm(2.2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Angular Field of View             | H: 50.0° / V: 37.0° / D: 63.8°<br>(iFoV: 1.319 mRad)                                                                                                                                                                                          | H: 112.1°(Wide) ~ 47.5°(Tele) /<br>V: 58.0°(Wide) ~ 26.6°(Tele) /<br>D: 137.5°(Wide) ~ 54.6°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                     | H: 50.0° / V: 37.0° / D: 63.8°<br>(iFoV: 1.319 mRad)                                                                                                                                                                                                                                            | H: 112.1°(Wide)~47.5°(Tele) /<br>V: 58.0°(Wide)~26.6°(Tele) /<br>D: 137.5°(Wide)~54.6°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pan / Tilt / Rotate               | -170° ~+170° / -40° ~50° / -                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IR Viewable Length                | —                                                                                                                                                                                                                                             | 30m (98.42ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                                                                                                                                                                                               | 30m (98.42ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Day & Night                       | —                                                                                                                                                                                                                                             | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | —                                                                                                                                                                                                                                                                                               | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Wide Dynamic Range                | —                                                                                                                                                                                                                                             | WDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | —                                                                                                                                                                                                                                                                                               | WDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Digital Noise Reduction           | —                                                                                                                                                                                                                                             | SSNR V, WiseNR II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | —                                                                                                                                                                                                                                                                                               | SSNR V, WiseNR II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Digital Image Stabilization       | —                                                                                                                                                                                                                                             | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                                                                                                                                                                                               | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Analytics                         | <b>Analytics events based on AI engine :</b><br>Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Motion detection | <b>Analytics events based on AI engine :</b><br>Object detection(Person, face, Vehicle (car/bus/truck/motorcycle/bicycle), License plate), Bestshot, Virtual line*(Crossing/Direction), Virtual area *(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam<br><b>Analytics events :</b> Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and vehicle detection | <b>Classified object type :</b><br>Person/Vehicle Support BestShot<br><b>Analytics events based on AI engine :</b><br>Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events :</b><br>Motion detection, Temperature detection | <b>Classified object type:</b><br>Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle)<br>Support BestShot<br><b>Analytics events based on AI engine :</b><br>Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events :</b><br>Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and vehicle detection |
| Business Intelligence             | Vehicle counting                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | —                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Alarm I/O                         | 4 configurable I/O ports                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4 configurable I/O ports                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Audio I/O                         | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Selectable(mic in/line in) Line out<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WiseStream                        | WiseStream II                                                                                                                                                                                                                                 | Manual(Sea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | WiseStream II                                                                                                                                                                                                                                                                                   | Manual(Sea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Streaming                         | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform (visible channel only)                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Operating Temperature / Humidity  | -40°C to +60°C(-58°F to +140°F) * Start up should be done at above -30°C less than 95% RH(non-condensing)                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -40°C to +60°C(-58°F to +140°F) * Start up should be done at above -30°C less than 95% RH(non-condensing)                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Certification                     | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Power Consumption                 | PoE+ : Max 25.5W, Typ 16.0W<br>12VDC : Max 21.5W, Typ 14.0W                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PoE+ : Max 25.5W, Typ 16.0W<br>12VDC : Max 21.5W, Typ 14.0W                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Product Dimensions / Weight       | 353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4.53kg(9.99lb)                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4.53kg(9.99lb)                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



TNM-C4940TDR

Radiometric Bi-spectrum AI Thermal Camera



TNM-C3622TDR

Radiometric Bi-spectrum AI Thermal Camera

| Imaging Device                    | Thermal                                                                                                                                                                                                                                                                                                 | Visible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Thermal                                                                                                                     | Visible                                                                                                                                                              |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <60mK)                                                                                                                                                                                                                                       | 1/1.8" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <50mK)                                                           | 1/2.8" 2MP CMOS                                                                                                                                                      |
| Resolution / Max. Frame Rate      | 640x480 / 30fps                                                                                                                                                                                                                                                                                         | 3840x2160 / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 320x240 / 8fps                                                                                                              | 1920x1080 / 30fps                                                                                                                                                    |
| Min. Illumination                 | —                                                                                                                                                                                                                                                                                                       | Color: 0.06Lux(F1.3, 1/30sec)<br>BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                           | Color: 0.05 lux(F1.6, 1/30sec)<br>B/W: 0.005 lux(F1.6, 1/30sec)                                                                                                      |
| Video Out                         | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation |                                                                                                                                                                      |
| Focal Length (Zoom Ratio)         | 9.1mm fixed focal                                                                                                                                                                                                                                                                                       | 4.4~9.3mm(2.2x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4.7mm fixed focal                                                                                                           | 4mm fixed focal                                                                                                                                                      |
| Angular Field of View             | H: 50.0° / V: 37.0° / D: 63.8°<br>(iFoV: 1.319 mRad)                                                                                                                                                                                                                                                    | H: 112.1°(Wide)~47.5°(Tele) /<br>V: 58.0°(Wide)~26.6°(Tele) /<br>D: 137.5°(Wide)~54.6°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | H: 50.0° / V: 36.4° / D: 65.3°<br>(iFoV: 2.553 mRad)                                                                        | H: 87.6° / V: 46.4° / D: 104.5°                                                                                                                                      |
| Pan / Tilt / Rotate               | -170°~+170° / -40°~50° / —                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                           |                                                                                                                                                                      |
| IR Viewable Length                | —                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                           |                                                                                                                                                                      |
| Day & Night                       | —                                                                                                                                                                                                                                                                                                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | —                                                                                                                           | Auto(ICR)                                                                                                                                                            |
| Wide Dynamic Range                | —                                                                                                                                                                                                                                                                                                       | WDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | —                                                                                                                           | extremeWDR(150dB)                                                                                                                                                    |
| Digital Noise Reduction           | —                                                                                                                                                                                                                                                                                                       | SSNR V, WiseNR II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | —                                                                                                                           | SSNR V                                                                                                                                                               |
| Digital Image Stabilization       | —                                                                                                                                                                                                                                                                                                       | Support(built-in gyro sensor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | —                                                                                                                           | Support(built-in gyro sensor)                                                                                                                                        |
| Analytics                         | <b>Classified object type</b> : Person/Vehicle<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b> :<br>Object detection, Virtual line(Crossing/Direction),<br>Virtual area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>Motion detection, Temperature detection | <b>Classified object type</b> :<br>Person/Face/Vehicle/License plate<br><b>Attributes</b> : Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br><b>Support BestShot</b><br><b>Analytics events based on AI engine</b> :<br>Object detection, Virtual line(Crossing/Direction), Virtual<br>area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b> : Defocus detection, Motion detection,<br>Tampering, Audio detection, Sound classification, Shock<br>detection, Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with people and<br>vehicle detection | Directional detection, Motion detection,<br>Enter/Exit, Virtual line, Temperature detection                                 | Directional detection, Motion detection, Enter/Exit,<br>Tampering, Virtual line, Audio detection<br>AI based Object detection<br>(person/face, visible channel only) |
| Business Intelligence             | —                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                           |                                                                                                                                                                      |
| Alarm I/O                         | 4 configurable I/O ports                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Input 1 ea / Output 2 ea                                                                                                    |                                                                                                                                                                      |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Selectable (mic in/line in) / Line out                                                                                      |                                                                                                                                                                      |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H.265/H.264: Main/Baseline/High, MJPEG                                                                                      |                                                                                                                                                                      |
| WiseStream                        | WiseStream II                                                                                                                                                                                                                                                                                           | Manual(5ea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | WiseStream II                                                                                                               | Manual(5ea area), WiseStream II                                                                                                                                      |
| Streaming                         | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 6 profiles)                                                       |                                                                                                                                                                      |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slots 512GB                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Micro SD/SDHC/SDXC 1slot 256GB                                                                                              |                                                                                                                                                                      |
| Application Programming Interface | ONVIF Profile S/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform (visible channel only)                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ONVIF Profile S/T/M<br>SUNAPI(HTTP API)                                                                                     |                                                                                                                                                                      |
| Operating Temperature / Humidity  | -40°C to +60°C (-58°F to +140°F) * Start up should be done at above -30°C<br>0~95% RH(non-condensing)                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -10°C~+55°C(+14°F~+131°F) / Less than 95% RH                                                                                |                                                                                                                                                                      |
| Certification                     | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | —                                                                                                                           |                                                                                                                                                                      |
| Power Consumption                 | PoE+: Max 25.5W, Typ 16.0W / 12VDC: Max 21.5W, Typ 14.0W                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | PoE+: Max. 17.0W, typical 12.5W / 12VDC: Max. 14.5W, typical 11.0W                                                          |                                                                                                                                                                      |
| Product Dimensions / Weight       | 353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53"), 4.53kg(9.99lb)                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1.7kg(3.77lb)                                                                   |                                                                                                                                                                      |



**TNM-C3620TDR**  
Radiometric Bi-spectrum AI Thermal Camera



**TNB-9000**  
8K Box Camera



**TNV-C7013RC**  
AI Corner Mount Camera



**TNV-C8011RW**  
AI Wall Mount Camera

| Imaging Device                    | Thermal                                                                                                                     | Visible                                                                                                                                                                      | 43.3mm Full-frame CMOS                                                                                                                              | 1/1.8" progressive CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1/2.8" progressive 5MP CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Uncooled micro bolometer<br>(Spectral range: 8~14μm, 12μm, <50mK)                                                           | 1/2.8" 2MP CMOS                                                                                                                                                              |                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Resolution / Max. Frame Rate      | 1280x960 / 30fps                                                                                                            | 1920x1080 / 30fps                                                                                                                                                            | 8K / 15fps, 24MP / 20fps, 15MP / 30fps, 4K / 60fps                                                                                                  | 3MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5MP / 30fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Min. Illumination                 | —                                                                                                                           | Color: 0.05 lux(F1.6, 1/30sec)<br>B/W: 0.005 lux(F1.6, 1/30sec)                                                                                                              | Color: 0.015Lux(F1.4)<br>BW: 0.0015Lux(F1.4)                                                                                                        | Color: 0.04Lux(F2.0, 1/30sec, 30IRE)<br>BW: 0.04Lux(F2.0, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                              | Color: 0.038Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.0038Lux(F1.6, 1/30sec, 30IRE),<br>0Lux(IR LED on)                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation |                                                                                                                                                                              | HDMI                                                                                                                                                | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Focal Length (Zoom Ratio)         | 4.7mm fixed focal                                                                                                           | 4mm fixed focal                                                                                                                                                              | —                                                                                                                                                   | 2.39mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.6mm fixed focal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Angular Field of View             | H: 50.0° / V: 36.4° / D: 65.3°<br>(iFoV: 2.553 mRad)                                                                        | H: 87.6° / V: 46.4° / D: 104.5°                                                                                                                                              | Canon 24mm, H: 57.4°, Canon 35mm, H: 42.6°<br>Canon 50mm, H: 30.9°, Canon 85mm, H: 19.1°<br>Canon 100mm, H: 16.0°, Canon 70~200mm,<br>H: 22.8°~8.0° | H: 128° / V: 100°                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H: 175° / V: 125° / D: 175°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IR Viewable Length                | —                                                                                                                           |                                                                                                                                                                              | —                                                                                                                                                   | Wise IR 15m (49.21ft), invisible 940nm wavelength                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15m (49.21ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Day & Night                       | —                                                                                                                           | Auto(ICR)                                                                                                                                                                    | Auto(ICR)                                                                                                                                           | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Wide Dynamic Range                | —                                                                                                                           | extremeWDR(150dB)                                                                                                                                                            | —                                                                                                                                                   | extremeWDR(120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Digital Noise Reduction           | —                                                                                                                           | SSNR V                                                                                                                                                                       | SSNR V                                                                                                                                              | SSNR V, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                     | SSNR V, WiseNR II (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Digital Image Stabilization       | —                                                                                                                           | Support(built-in gyro sensor)                                                                                                                                                | —                                                                                                                                                   | Support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Analytics                         | Directional detection, Motion detection,<br>Enter/Exit,<br>Virtual line, Temperature detection                              | Directional detection, Motion detection, Enter/<br>Exit, Tampering, Virtual line, Audio detection<br><b>AI based Object detection</b><br>(person/face, visible channel only) | Intelligent analytics,<br>Audio detection,<br>Sound classification                                                                                  | <b>Classified object type</b> : Person/Face/Vehicle/<br>License plate<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine</b><br>: Object detection, Virtual line(Crossing/Direction),<br>Virtual area(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>: Defocus detection, Motion detection, Tampering,<br>Audio detection, Sound classification,<br>Virtual area(Appear/Disappear),<br><b>Clothes color detection</b> (Orange/Black/Red,<br>@400lux) | <b>Classified object type</b> : Person/Face/ Vehicle<br>Attributes: Vehicle(Type:car/bus/truck/<br>motorcycle/bicycle)<br><b>Support DetectionShot</b><br><b>Analytics events based on AI engine</b><br>– Motion detection*, Object detection,<br>Virtual line*(Crossing/Direction), Virtual<br>area*(Loitering/Intrusion/Enter/Exit)<br><b>Analytics events</b><br>– Defocus detection, Tampering, Shock detection,<br>Virtual area(Appear/Disappear)<br>* Some of the video analytics only works with<br>people and vehicle detection |
| Business Intelligence             | —                                                                                                                           |                                                                                                                                                                              | —                                                                                                                                                   | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Based on AI engine: People counting, Vehicle<br>counting, Queue management, Heatmap                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Alarm I/O                         | Input 1ea / Output 2ea                                                                                                      |                                                                                                                                                                              | 1 / 1                                                                                                                                               | 2 configurable I/O ports<br>* Support Alarm via optional SPM-4210 I/O box                                                                                                                                                                                                                                                                                                                                                                                                                  | —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                      |                                                                                                                                                                              | Selectable (mic in/line in) / Line out                                                                                                              | Selectable (mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Built-in mic only / —                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Video Compression                 | H.265/H.264: Main/Baseline/High, MJPEG                                                                                      |                                                                                                                                                                              | H.265, H.264, MJPEG                                                                                                                                 | H.265/H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WiseStream                        | WiseStream II                                                                                                               | Manual(Sea area), WiseStream II                                                                                                                                              | WiseStream II                                                                                                                                       | Manual(Sea area), WiseStream II,<br>WiseStream III (Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                                                    | Manual(Sea area), WiseStream III (Based on AI<br>engine)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Streaming                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 6 profiles)                                                       |                                                                                                                                                                              | Up to 3 Profiles                                                                                                                                    | Up to 10 profiles, 3 virtual channel support                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 5 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Edge Storage                      | Micro SD/SDHC/SDXC 1 slot 256GB                                                                                             |                                                                                                                                                                              | micro SD/SDHC/SDXC                                                                                                                                  | Micro SD/SDHC/SDXC 1 slot 1TB                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Micro SD/SDHC/SDXC 1 slot 256GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Application Programming Interface | ONVIF Profile S/T/M<br>SUNAPI(HTTP API)                                                                                     |                                                                                                                                                                              | ONVIF Profile S/G/T<br>SUNAPI                                                                                                                       | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                                                                                                                                                                                                                         | ONVIF Profile S/G/T/M<br>SUNAPI(HTTP API)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Operating Temperature / Humidity  | -10°C~-55°C(+14°F~+131°F) / Less than 95% RH                                                                                |                                                                                                                                                                              | 0°C~+45°C (32°F~+122°F)                                                                                                                             | -10°C~-55°C (14°F~+131°F) 0~95% RH(non-<br>condensing) Humidity control with AIR vent                                                                                                                                                                                                                                                                                                                                                                                                      | -30°C~-55°C (-22°F~+131°F) / Less than<br>95% RH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Certification                     | —                                                                                                                           |                                                                                                                                                                              | EMC                                                                                                                                                 | IP66, IP6K9K, IK10+                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | IP66, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Power Consumption                 | PoE+: Max. 17.0W, typical 12.5W<br>12VDC: Max. 14.5W, typical 11.0W                                                         |                                                                                                                                                                              | PoE: Max 30W, typical 20W<br>12VDC: Max 26W, typical 18W                                                                                            | PoE: Max 12.95W, typical 9.7W<br>DC: Max 12.7W, typical 9.0W                                                                                                                                                                                                                                                                                                                                                                                                                               | Max 11.5W / Typ 4.8W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Product Dimensions / Weight       | 135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1.7kg(3.77lb)                                                                   |                                                                                                                                                                              | 120x118.5x179mm, 2.2kg (4.85 lb)                                                                                                                    | 198.3(W)x104.8(H)x198.6(D)mm<br>(7.87"x4.13"x7.82"), 1.935kg (4.27lb)                                                                                                                                                                                                                                                                                                                                                                                                                      | 80(W)x167(H)x57(D)mm(3.15x6.56x2.24"),<br>600g(1.32lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



**PNO-A9311RLP**  
8MP 31x Zoom LPR/ANPR/MMCR  
IR Bullet Camera



**PNO-A9081RLP**  
8MP AI LPR IR Bullet Camera



**PNV-A9081RLP**  
8MP AI LPR IR Vandal Dome Camera



**PNB-A9001LP**  
8MP AI LPR Box Camera



**TNO-7180RLP**  
3MP AI LPR Box Camera

NEW

|                                      | PNO-A9311RLP<br>8MP 31x Zoom LPR/ANPR/MMCR<br>IR Bullet Camera                                     | PNO-A9081RLP<br>8MP AI LPR IR Bullet Camera                                                                  | PNV-A9081RLP<br>8MP AI LPR IR Vandal Dome Camera                                                             | PNB-A9001LP<br>8MP AI LPR Box Camera                                                                         | TNO-7180RLP<br>3MP AI LPR Box Camera                                                                                                   |
|--------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                       | 1/1.8" CMOS                                                                                        | 1/1.8" CMOS                                                                                                  | 1/1.8" CMOS                                                                                                  | 1/1.8" CMOS                                                                                                  | 1/1.8" CMOS, Global Shutter                                                                                                            |
| Resolution /<br>Max. Frame Rate      | 4K / 30fps                                                                                         | 8MP / 30fps                                                                                                  | 8MP / 30fps                                                                                                  | 8MP / 30fps                                                                                                  | 3MP / 55fps                                                                                                                            |
| Min. Illumination                    | Color: 0.075Lux(F1.36, 1/30sec, 30IRE)<br>BW: 0.0075Lux(F1.36, 1/30sec, 30IRE),<br>0Lux(IR LED on) | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED on)                                                         | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)                                | Color: 0.03Lux(F1.2, 1/30sec)<br>B/W: 0.003Lux(F1.2, 1/30sec)                                                | Color 0.1 Lux (1/30sec, gain 48dB)                                                                                                     |
| Video Out                            | CVBS: 1.0 Vp-p, Micro USB Type B                                                                   | CVBS: 1.0 Vp-p, Micro USB Type B                                                                             | CVBS: 1.0 Vp-p, Micro USB Type B                                                                             | CVBS: 1.0 Vp-p, Micro USB Type B                                                                             | CVBS: 1.0 Vp-p, Micro USB Type B                                                                                                       |
| Focal Length (Zoom Ratio)            | 6.91~214.7mm (31x) motorized varifocal                                                             | 4.5~10mm(2.2x) motorized varifocal                                                                           | 4.5~10mm (2.2x) motorized varifocal                                                                          | —                                                                                                            | 6.8~120mm(18x) motorized varifocal                                                                                                     |
| Angular Field of View                | H: 60.92°(Wide)~2.2°(Tele)<br>V: 35.26°(Wide)~1.24°(Tele)<br>D: 69.18°(Wide)~2.52°(Tele)           | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele)                     | H: 101.4°(Wide)~45.5°(Tele)<br>V: 53.6°(Wide)~25.5°(Tele)<br>D: 120.7°(Wide)~52.3°(Tele)                     | —                                                                                                            | H: 54.5° (Wide)~3.4° (Tele)<br>V: 42.3° (Wide)~2.5° (Tele)                                                                             |
| Pan / Tilt / Rotate                  | —                                                                                                  | —                                                                                                            | 0°~360° / -45°~85° / 0°~355°                                                                                 | —                                                                                                            | —                                                                                                                                      |
| IR Viewable Length                   | WiseIR 70m(229.66ft)                                                                               | 30m(98.42ft)                                                                                                 | 30m(98.42ft)                                                                                                 | —                                                                                                            | WiseIR 50m (164ft)                                                                                                                     |
| Day & Night                          | Auto(ICR)                                                                                          | Auto(ICR)                                                                                                    | Auto(ICR)                                                                                                    | Auto(ICR)                                                                                                    | Auto (ICR)                                                                                                                             |
| Wide Dynamic Range                   | 120dB                                                                                              | —                                                                                                            | —                                                                                                            | —                                                                                                            | —                                                                                                                                      |
| Digital Noise Reduction              | SSNR V                                                                                             | SSNR V                                                                                                       | SSNR V                                                                                                       | SSNR V                                                                                                       | SSNR V                                                                                                                                 |
| Digital Image Stabilization          | Support (built-in gyro sensor)                                                                     | Support (built-in gyro sensor)                                                                               | —                                                                                                            | —                                                                                                            | —                                                                                                                                      |
| Analytics                            | —                                                                                                  | Defocus detection, Motion detection,<br>Tampering, Audio detection, Sound<br>classification, Shock detection | Defocus detection, Motion detection,<br>Tampering, Audio detection, Sound<br>classification, Shock detection | Defocus detection, Motion detection,<br>Tampering, Audio detection, Sound<br>classification, Shock detection | Motion detection, Tampering,<br>Virtual line(Crossing/Direction),<br>Virtual Area(Loitering/Intrusion/Enter/Exit,<br>Appear/Disappear) |
| Business Intelligence                | —                                                                                                  | —                                                                                                            | —                                                                                                            | —                                                                                                            | —                                                                                                                                      |
| Alarm I/O                            | 2 configurable I/O ports, DC 12V output<br>(Max. 50mA)                                             | 1/1                                                                                                          | 1/1                                                                                                          | 1/1                                                                                                          | 4 configurable I/O ports                                                                                                               |
| Audio I/O                            | Selectable(mic in/line in) /<br>Line out                                                           | Selectable (mic in/line in/built-in mic) /<br>Line out                                                       | Selectable(mic in/line in/built-in mic) /<br>Line out                                                        | Selectable(mic in/line in/built-in mic) /<br>Line out                                                        | Selectable(mic in/line in) /<br>Line out                                                                                               |
| Video Compression                    | H.265/H.264: Main/High, MJPEG                                                                      | H.265 / H.264, MJPEG                                                                                         | H.265/H.264, MJPEG                                                                                           | H.265/H.264: Main/High, MJPEG                                                                                | H.265 / H.264, MJPEG                                                                                                                   |
| WiseStream                           | Manual(5ea area), WiseStream II                                                                    | WiseStream II                                                                                                | WiseStream II                                                                                                | WiseStream II                                                                                                | WiseStream II                                                                                                                          |
| Streaming                            | Micro SD/SDHC/SDXC 1slot<br>(32GB Card preinstalled)                                               | Up to 3 profiles                                                                                             | Up to 3 profiles                                                                                             | Up to 3 profiles                                                                                             | Up to 10 Profiles                                                                                                                      |
| Edge Storage                         | Micro SD/SDHC/SDXC 1slot (32GB Card<br>preinstalled)                                               | Pre-installed with 32GB Micro SD to support<br>10,000 LPR images                                             | Pre-installed with 32GB Micro SD to support<br>10,000 LPR images                                             | Pre-installed with 32GB Micro SD to support<br>10,000 LPR images                                             | Micro SD/SDHC/SDXC 1slot (32GB Card<br>preinstalled)                                                                                   |
| Application Programming<br>Interface | ONVIF Profile S/G/T/M<br>SUNAPI(HTTP API)                                                          | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                           | ONVIF Profile S/G/T SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                          | ONVIF Profile S/G/T SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                          | ONVIF Profile S/G/T SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                    |
| Operating Temperature /<br>Humidity  | -40°C ~ +55°C(-40°F ~ +131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30°C    | -40°C ~ +55°C(-40°F ~ +131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30°C              | -40°C ~ +55°C(-40°F ~ +131°F) /<br>Less than 90% RH<br>* Start up should be done at above -30°C              | -10°C ~ +55°C(+14°F ~ +131°F) /<br>Less than 90% RH                                                          | -40°C ~ +55°C(-40°F ~ +131°F) /<br>Less than 95% RH(Noncondensing)                                                                     |
| Certification                        | IP66/IP67, IK10, NEMA4X                                                                            | IP66/IP67, IK10, NEMA4X                                                                                      | IP66/IP67/IP6K9K, IK10+, NEMA4X                                                                              | —                                                                                                            | IP66, IK10, NEMA 4X, NEMA TS 2(2.2.8, 2.2.9)                                                                                           |
| Power Consumption                    | PoE+: Max 25.5W, typical 14.0W<br>12VDC: Max 24.0W, typical 12.7W                                  | PoE+: Max 20.0W, typical 17.00W<br>12VDC: Max 18.00W, typical 16.00W                                         | PoE+: Max 20.00W, typical 17.00W<br>12VDC: Max 18.70W, typical 15.00W                                        | PoE+: Max 16.50W, typical 12.50W<br>12VDC: Max 13.50W, typical 10.80W                                        | PoE: Max 50W, Typical 27W<br>12VDC: Max 47.5W, Typical 25W                                                                             |
| Product Dimensions /<br>Weight       | Ø136.2x358.7mm (Ø5.36x14.12")<br>(Without sunshield), 3200g(7.05lb)<br>* backbox: Ø160mm(Ø6.30")   | Ø91.0x368.6mm (3.58" x 14.51")<br>(Without sunshield), 2.48Kg (5.47lb)                                       | Ø180x125mm(7.09x4.92"), 1.90Kg (4.19lb)                                                                      | 81x67x165mm(3.19x2.64x6.48"),<br>0.88kg(1.94lb)                                                              | 186.9(W) x259.3(H) x 293.7(D) (mm) / 4.8kg<br>(10.5 lb)                                                                                |

## SolidEDGE



## PNV-A6081R-E1T

2MP Camera with 1TB Rugged SSD

## SolidEDGE



## PNV-A6081R-E2T

2MP Camera with 2TB Rugged SSD

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                            |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2" CMOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1/2" CMOS                                                                                                                                                                                                                  |
| Resolution / Max. Frame Rate      | 2MP/120fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2MP/120fps                                                                                                                                                                                                                 |
| Min. Illumination                 | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Color: 0.007Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps                                                                                                                    |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation                                                                                                                                                    |
| Focal Length (Zoom Ratio)         | 4.38~9.33mm(2.13x) motorized varifocal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4.38~9.33mm(2.13x) motorized varifocal                                                                                                                                                                                     |
| Angular Field of View             | H: 104°(Wide)~44°(Tele)<br>V: 55°(Wide)~24°(Tele)<br>D: 124°(Wide)~51°(Tele)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | H: 104°(Wide)~44°(Tele)<br>V: 55°(Wide)~24°(Tele)<br>D: 124°(Wide)~51°(Tele)                                                                                                                                               |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~85° / 0°~355°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0°~360° / 0°~85° / 0°~355°                                                                                                                                                                                                 |
| IR Viewable Length                | 40m(131.23ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40m(131.23ft)                                                                                                                                                                                                              |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Auto(ICR)                                                                                                                                                                                                                  |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 120dB                                                                                                                                                                                                                      |
| Digital Noise Reduction           | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                     |
| Digital Image Stabilization       | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -                                                                                                                                                                                                                          |
| Analytics                         | <p><b>Classified object type:</b> Person/Face/Vehicle/License plate<br/> <b>Attributes:</b> Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color)<br/> <b>Support BestShot per object</b><br/> <b>Analytics events based on AI engine</b><br/>           - Object detection, Virtual line*(Crossing/Direction), Virtual area *(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection<br/> <b>Analytics events</b><br/>           - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br/>           *Some of the video analytics only works with people and vehicle detection</p> |                                                                                                                                                                                                                            |
| Business Intelligence             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -                                                                                                                                                                                                                          |
| Alarm I/O                         | Input 1ea / Output 1ea                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Input 1ea / Output 1ea                                                                                                                                                                                                     |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selectable(mic in/line in) / Line out                                                                                                                                                                                      |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                              |
| WiseStream                        | Manual(Sea area), WiseStream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Manual(Sea area), WiseStream III                                                                                                                                                                                           |
| Streaming                         | Unicast(6 users) / Multicast Multiple streaming(Up to 5 profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unicast(6 users) / Multicast Multiple streaming(Up to 5 profiles)                                                                                                                                                          |
| Edge Storage                      | 1TB SSD included(WAVE pre-installed) Possible to register the maximum number of camera<br>- up to 6 camera(Host + 5 camera)<br>- Total bandwidth: up to 33Mbps<br>* Cannot support the camera when host camera use AI mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2TB SSD included(WAVE pre-installed) Possible to register the maximum number of camera<br>- up to 6 camera(Host + 5 camera)<br>- Total bandwidth: up to 33Mbps<br>* Cannot support the camera when host camera use AI mode |
| Application Programming Interface | ONVIF Profile S/T/M, SUNAPI(HTTP API)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ONVIF Profile S/T/M, SUNAPI(HTTP API)                                                                                                                                                                                      |
| Operating Temperature / Humidity  | -30°C~+55°C(-22°F~+131°F) / 0~95%RH(non-condensing) * Start up should be done at above -20°C<br>Humidity control with AIR Vent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                            |
| Certification                     | IP66/IP67/IP6K9K, NEMA4X, IK10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | IP66/IP67/IP6K9K, NEMA4X, IK10                                                                                                                                                                                             |
| Power Consumption                 | PoE+: Max 19.2W, typical 14.4W / 12VDC: Max 17.5W, typical 12.7W<br>Power redundancy failover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PoE+: Max 19.2W, typical 14.4W / 12VDC: Max 17.5W, typical 12.7W<br>Power redundancy failover                                                                                                                              |
| Product Dimensions / Weight       | ø 180x130mm(ø 7.09x5.12"), 1900g(4.19 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ø 180x130mm(ø 7.09x5.12"), 1900g(4.19 lb)                                                                                                                                                                                  |





**XNO-9082R**  
8MP IR Bullet Camera



**XNV-9082R**  
8MP IR Vandal Dome Camera



**XND-9082RF**  
8MP IR Dome Camera



**XND-9082RV**  
8MP IR Dome Camera



**XNB-9002**  
8MP Box Camera

|                                   |                                                                                                                                                                                                                                                                                    |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Resolution / Max. Frame Rate      | 4K / 30fps                                                                                                                                                                                                                                                                         |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Min. Illumination                 | Color: 0.05Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               | Color: 0.05Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.2, 1/30sec, 30IRE)                                                     |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Focal Length (Zoom Ratio)         | 2.8~8.4mm(3x) motorized varifocal                                                                                                                                                                                                                                                  | 2.8~8.4mm(3x) motorized varifocal                                                                                                | 2.8~8.4mm(3x) motorized varifocal                                                             | 2.8~8.4mm(3x) motorized varifocal                                                             | —                                                                                                                              |
| Angular Field of View             | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                                                                                                                                                                                                       | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                                                     | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                  | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                  | —                                                                                                                              |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~100° / 0°~360°                                                                                                                                                                                                                                                        | 0°~360° / 0°~85° / 0°~355°                                                                                                       | 0°~360° / 0°~85° / 0°~355°                                                                    | 0°~360° / 0°~85° / 0°~355°                                                                    | —                                                                                                                              |
| IR Viewable Length                | WiseIR 40m(131.23ft)                                                                                                                                                                                                                                                               | WiseIR 40m(131.23ft)                                                                                                             | WiseIR 40m(131.23ft)                                                                          | WiseIR 40m(131.23ft)                                                                          | —                                                                                                                              |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                          | Auto(ICR)                                                                                                                        | Auto(ICR)                                                                                     | Auto(ICR)                                                                                     | Auto(ICR)                                                                                                                      |
| Wide Dynamic Range                | extremeWDR(120dB)                                                                                                                                                                                                                                                                  | extremeWDR(120dB)                                                                                                                | extremeWDR(120dB)                                                                             | extremeWDR(120dB)                                                                             | extremeWDR(120dB)                                                                                                              |
| Digital Noise Reduction           | SSNRV                                                                                                                                                                                                                                                                              | SSNRV                                                                                                                            | SSNRV                                                                                         | SSNRV                                                                                         | SSNRV                                                                                                                          |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                                                                                      | Support(built-in gyro sensor)                                                                                                    | Support(built-in gyro sensor)                                                                 | Support(built-in gyro sensor)                                                                 | Support(built-in gyro sensor)                                                                                                  |
| Analytics                         | <b>Analytics events</b><br>– Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Fog detection, Virtual line, Audio detection, Sound classification, Shock detection, Face/upper body detection |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Business Intelligence             | People counting, Queue management, Heatmap                                                                                                                                                                                                                                         |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                           | 2 configurable I/O ports                                                                                                         | 2 configurable I/O ports                                                                      | 2 configurable I/O ports                                                                      | 2 configurable I/O ports                                                                                                       |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                                                                                                                              | Selectable(mic in/line in) / Line out                                                                                            | Selectable(mic in/line in) / Line out                                                         | Selectable(mic in/line in/built-in mic) / Line out                                            | Selectable(mic in/line in/built-in mic) / Line out                                                                             |
| Video Compression                 | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                                                                             | H.265/H.264: Main/Baseline/High, MJPEG                                                                                           | H.265/H.264: Main/Baseline/High, MJPEG                                                        | H.265/H.264: Main/Baseline/High, MJPEG                                                        | H.265/H.264: Main/Baseline/High, MJPEG                                                                                         |
| WiseStream                        | Manual(5ea area), WiseStream II                                                                                                                                                                                                                                                    | Manual(5ea area), WiseStream II                                                                                                  | Manual(5ea area), WiseStream II                                                               | Manual(5ea area), WiseStream II                                                               | Manual(5ea area), WiseStream II                                                                                                |
| Streaming                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles, 3 virtual channel support)                                                                                                                                                                                  |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)                                                                                                                                                                                                                                         |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                 |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Operating Temperature / Humidity  | –50°C~+60°C(–58°F~+140°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above –30°C                                                                                                                                                                                   | –50°C~+60°C(–58°F~+140°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above –30°C                                 | –25°C~+60°C(–13°F~+140°F) / 0~95% RH(non-condensing)                                          | –25°C~+60°C(–13°F~+140°F) / 0~95% RH(non-condensing)                                          | –10°C~+55°C(+14°F~+131°F) / 0~95% RH(non-condensing)                                                                           |
| Certification                     | IP66/IP67, NEMA4X, IK10                                                                                                                                                                                                                                                            | IP66/IP67/IP6K9K, IK10+, NEMA4X                                                                                                  | IP52, Plenum rated, IK10                                                                      | IP52, IK10                                                                                    | —                                                                                                                              |
| Power Consumption                 | PoE: Max 12.95W, typical 10.5W<br>12VDC: Max 12.5W, typical 9.4W<br>24VAC: Max 14.5W, typical 11.2W<br>Power redundancy failover                                                                                                                                                   | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>24VAC: Max 13.5W, typical 11.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 8.2W<br>12VDC: Max 11.5W, typical 7.5W<br>24VAC: Max 13.5W, typical 8.9W<br>Power redundancy failover |
| Product Dimensions / Weight       | ø91x368.6mm(ø3.85x14.51"),<br>2200g(4.85 lb)                                                                                                                                                                                                                                       | ø180x125mm(ø7.09x4.92"),<br>1900g(4.19 lb)                                                                                       | ø205x163mm(ø8.07x6.42"),<br>1950g(4.29 lb)                                                    | ø160x125mm(ø6.30x4.92"),<br>1600g(3.53 lb)                                                    | 81(W)x67(H)x165(D)mm(3.19x2.64x6.48"),<br>880g(1.94 lb)                                                                        |
| Additional Features               | UL CAP, Secure by Default                                                                                                                                                                                                                                                          |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |



**XNO-8082R**  
6MP IR Bullet Camera



**XNV-8082R**  
6MP IR Vandal Dome Camera



**XND-8082RF**  
6MP IR Dome Camera



**XND-8082RV**  
6MP IR Dome Camera



**XNB-8002**  
6MP Box Camera

|                                   |                                                                                                                                                                                                                                                                                    |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Resolution / Max. Frame Rate      | 6MP / 30fps                                                                                                                                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Min. Illumination                 | Color: 0.05Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               | Color: 0.05Lux(F1.2, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.2, 1/30sec, 30IRE)                                                     |
| Video Out                         | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                                        |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Focal Length (Zoom Ratio)         | 2.8~8.4mm(3x) motorized varifocal                                                                                                                                                                                                                                                  | 2.8~8.4mm(3x) motorized varifocal                                                                                                | 2.8~8.4mm(3x) motorized varifocal                                                             | 2.8~8.4mm(3x) motorized varifocal                                                             | -                                                                                                                              |
| Angular Field of View             | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                                                                                                                                                                                                       | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                                                     | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                  | H: 114°(Wide)~40°(Tele)<br>V: 62°(Wide)~22°(Tele)<br>D: 133°(Wide)~46°(Tele)                  | -                                                                                                                              |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~100° / 0°~360°                                                                                                                                                                                                                                                        | 0°~360° / 0°~85° / 0°~355°                                                                                                       | 0°~360° / 0°~85° / 0°~355°                                                                    | 0°~360° / 0°~85° / 0°~355°                                                                    | -                                                                                                                              |
| IR Viewable Length                | WiseIR 40m(131.23ft)                                                                                                                                                                                                                                                               | WiseIR 40m(131.23ft)                                                                                                             | WiseIR 40m(131.23ft)                                                                          | WiseIR 40m(131.23ft)                                                                          | -                                                                                                                              |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                                                          | Auto(ICR)                                                                                                                        | Auto(ICR)                                                                                     | Auto(ICR)                                                                                     | Auto(ICR)                                                                                                                      |
| Wide Dynamic Range                | extremeWDR(120dB)                                                                                                                                                                                                                                                                  | extremeWDR(120dB)                                                                                                                | extremeWDR(120dB)                                                                             | extremeWDR(120dB)                                                                             | extremeWDR(120dB)                                                                                                              |
| Digital Noise Reduction           | SSNRV                                                                                                                                                                                                                                                                              | SSNRV                                                                                                                            | SSNRV                                                                                         | SSNRV                                                                                         | SSNRV                                                                                                                          |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                                                                                      | Support(built-in gyro sensor)                                                                                                    | Support(built-in gyro sensor)                                                                 | Support(built-in gyro sensor)                                                                 | Support(built-in gyro sensor)                                                                                                  |
| Analytics                         | <b>Analytics events</b><br>- Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Fog detection, Virtual line, Audio detection, Sound classification, Shock detection, Face/upper body detection |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Business Intelligence             | People counting, Queue management, Heatmap                                                                                                                                                                                                                                         |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Alarm I/O                         | 2 configurable I/O ports                                                                                                                                                                                                                                                           | 2 configurable I/O ports                                                                                                         | 2 configurable I/O ports                                                                      | 2 configurable I/O ports                                                                      | 2 configurable I/O ports                                                                                                       |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                                                                                                                              | Selectable(mic in/line in) / Line out                                                                                            | Selectable(mic in/line in) / Line out                                                         | Selectable(mic in/line in/built-in mic) / Line out                                            | Selectable(mic in/line in/built-in mic) / Line out                                                                             |
| Video Compression                 | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                                                                             | H.265/H.264: Main/Baseline/High, MJPEG                                                                                           | H.265/H.264: Main/Baseline/High, MJPEG                                                        | H.265/H.264: Main/Baseline/High, MJPEG                                                        | H.265/H.264: Main/Baseline/High, MJPEG                                                                                         |
| WiseStream                        | Manual(5ea area), WiseStream II                                                                                                                                                                                                                                                    | Manual(5ea area), WiseStream II                                                                                                  | Manual(5ea area), WiseStream II                                                               | Manual(5ea area), WiseStream II                                                               | Manual(5ea area), WiseStream II                                                                                                |
| Streaming                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles, 3 virtual channel support)                                                                                                                                                                                  |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)                                                                                                                                                                                                                                         |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                                 |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |
| Operating Temperature / Humidity  | -50°C~+60°C(-58°F~+140°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above -30°C                                                                                                                                                                                   | -50°C~+60°C(-58°F~+140°F) / 0~95% RH(non-condensing)<br>* Start up should be done at above -30°C                                 | -25°C~+60°C(-13°F~+140°F) / 0~95% RH(non-condensing)                                          | -25°C~+60°C(-13°F~+140°F) / 0~95% RH(non-condensing)                                          | -10°C~+55°C(+14°F~+131°F) / 0~95% RH(non-condensing)                                                                           |
| Certification                     | IP66/IP67, NEMA4X, IK10                                                                                                                                                                                                                                                            | IP66/IP67/IP6K9K, IK10+, NEMA4X                                                                                                  | IP52, Plenum rated, IK10                                                                      | IP52, IK10                                                                                    | -                                                                                                                              |
| Power Consumption                 | PoE: Max 12.95W, typical 10.5W<br>12VDC: Max 12.5W, typical 9.4W<br>24VAC: Max 14.5W, typical 11.2W<br>Power redundancy failover                                                                                                                                                   | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>24VAC: Max 13.5W, typical 11.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 10.7W<br>12VDC: Max 11.5W, typical 9.0W<br>Power redundancy failover | PoE: Max 12.95W, typical 8.2W<br>12VDC: Max 11.5W, typical 7.5W<br>24VAC: Max 13.5W, typical 8.9W<br>Power redundancy failover |
| Product Dimensions / Weight       | ø91x368.6mm(ø3.85x14.51"),<br>2200g(4.85 lb)                                                                                                                                                                                                                                       | ø180x125mm(ø7.09x4.92"),<br>1900g(4.19 lb)                                                                                       | ø205x163mm(ø8.07x6.42"),<br>1950g(4.29 lb)                                                    | ø160x125mm(ø6.30x4.92"),<br>1600g(3.53 lb)                                                    | 81(W)x67(H)x165(D)mm(3.19x2.64x6.48"),<br>880g(1.94 lb)                                                                        |
| Additional Features               | UL CAP, Secure by Default                                                                                                                                                                                                                                                          |                                                                                                                                  |                                                                                               |                                                                                               |                                                                                                                                |



**XND-8081VZ**  
SMP Dome Camera



**XND-8081FZ**  
SMP Flush Mount Dome Camera



**XND-8081RV**  
SMP IR Dome Camera



**XND-8081RF**  
SMP IR Flush Mount Dome Camera



**XNV-8081Z**  
SMP Vandal Dome Camera

|                                   |                                                                                                       |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
|-----------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                           |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                                                           |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Min. Illumination                 | Color : 0.07Lux (F1.2)<br>B/W : 0.007Lux (F1.2)                                                       | Color : 0.07Lux (F1.2)<br>B/W : 0.007Lux (F1.2)                                                       | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.07 Lux (F1.2)<br>B/W : 0.007 Lux (F1.2)                                                     |
| Video Out                         | Micro USB Type B                                                                                      | Micro USB Type B                                                                                      | CVBS 1.0 Vp-p, Micro USB Type B                                                                      | CVBS 1.0 Vp-p, Micro USB Type B                                                                      | Micro USB Type B                                                                                      |
| Focal Length (Zoom Ratio)         | 3.6 ~ 9.4mm (2.6x)<br>motorized varifocal                                                             | 3.6 ~ 9.4mm (2.6x)<br>motorized varifocal                                                             | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                            | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                            | 3.6 ~ 9.4mm (2.6x)<br>motorized varifocal                                                             |
| Angular Field of View             | H : 102.5° (Wide) ~ 38.7° (Tele)<br>V : 74.2° (Wide) ~ 29° (Tele)<br>D : 135.5° (Wide) ~ 48.6° (Tele) | H : 102.5° (Wide) ~ 38.7° (Tele)<br>V : 74.2° (Wide) ~ 29° (Tele)<br>D : 135.5° (Wide) ~ 48.6° (Tele) | H : 92.1° (Wide) ~ 38.7° (Tele)<br>V : 67.2° (Wide) ~ 29° (Tele)<br>D : 119.9° (Wide) ~ 48.6° (Tele) | H : 92.1° (Wide) ~ 38.7° (Tele)<br>V : 67.2° (Wide) ~ 29° (Tele)<br>D : 119.9° (Wide) ~ 48.6° (Tele) | H : 102.5° (Wide) ~ 38.7° (Tele)<br>V : 74.2° (Wide) ~ 29° (Tele)<br>D : 135.5° (Wide) ~ 48.6° (Tele) |
| Pan / Tilt / Rotate Range         | ± 175° / 0 ~ 85° / ± 175° (Remote)                                                                    | ± 175° / 0 ~ 85° / ± 175° (Remote)                                                                    | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                                   | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                                   | ± 175° / 0 ~ 85° / ± 175° (Remote)                                                                    |
| IR Viewable Length                | –                                                                                                     | –                                                                                                     | 50m (164.04ft)                                                                                       | 50m (164.04ft)                                                                                       | –                                                                                                     |
| Day & Night                       | Auto (ICR)                                                                                            |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Wide Dynamic Range                | 120dB                                                                                                 |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Digital Noise Reduction           | SSNR V                                                                                                |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                        |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification,<br>Audio Playback, Shock detection      |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Business Intelligence             | –                                                                                                     |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Alarm I/O                         | 1 / 1                                                                                                 |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Audio I/O                         | Selectable (mic in/line in),<br>Built-in mic / Line out                                               | Selectable (mic in/line in) / Line out                                                                | Selectable (mic in/line in),<br>Built-in mic / Line out                                              | Selectable (mic in/line in) / Line out                                                               | Selectable (mic in/line in) / Line out                                                                |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                  |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| WiseStream                        | WiseStream II                                                                                         |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Streaming                         | Up to 10 Profiles                                                                                     |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                    |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI<br>Hanwha Vision Open Platform                                              |                                                                                                       |                                                                                                      |                                                                                                      |                                                                                                       |
| Operating Temperature / Humidity  | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                                     | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                                     | -25°C ~ +60°C (-13°F ~ +140°F) /<br>0~90% RH                                                         | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                                    | -50°C ~ +60°C<br>(-58°F ~ +140°F)<br>* Start up above -35°C (-31°F)                                   |
| Certification                     | IP52, IK10                                                                                            | IP52, Plenum rate                                                                                     | IP52, IK10                                                                                           | IP52, Plenum rate                                                                                    | IP67, IP66, IP6K9K, IK10+, NEMA4X                                                                     |
| Power Consumption                 | PoE : Max 11W<br>12VDC : Max 9W                                                                       | PoE : Max 11W<br>12VDC : Max 9W                                                                       | PoE : Max 12.95W<br>12VDC : Max 11.7W                                                                | PoE : Max 12.95W<br>12VDC : Max 11.7W                                                                | PoE : Max 12.3W<br>12VDC : Max 10W<br>24VAC : Max 12.3W                                               |
| Product Dimensions / Weight       | Ø 160 x 125mm (Ø 6.3" x 4.92")<br>1.45kg (3.20lb)                                                     | Ø 205 x 155mm (Ø 8.07" x 6.1")<br>1.85kg (4.08lb)                                                     | Ø 160 x 125mm (Ø 6.3" x 4.92")<br>1.45kg (3.20lb)                                                    | Ø 205 x 155mm (Ø 8.07" x 6.1")<br>1.8kg (3.97lb)                                                     | Ø 180 x 125mm (Ø 7.1" x 4.9")<br>1.75kg (3.86lb)                                                      |
| Additional Features               | Modular structure,<br>Motorized PTRZ, Anti dust                                                       | Modular structure,<br>Motorized PTRZ, Anti dust                                                       | Modular structure, Anti dust                                                                         | Modular structure, Anti dust                                                                         | Modular structure, Motorized PTRZ                                                                     |



**XNV-8081R**  
5MP IR Vandal Dome Camera



**XND-6081V**  
2MP Dome Camera



**XND-6081F**  
2MP Flush Mount Dome Camera



**XND-6081VZ**  
2MP Dome Camera



**XND-6081FZ**  
2MP Flush Mount Dome Camera

|                                   |                                                                                                  |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
|-----------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                      | 1/2.8" CMOS                                                                                  | 1/2.8" CMOS                                                                                  | 1/2.8" CMOS                                                                                  | 1/2.8" CMOS                                                                                  |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                                                      | 2MP / 60fps                                                                                  | 2MP / 60fps                                                                                  | 2MP / 60fps                                                                                  | 2MP / 60fps                                                                                  |
| Min. Illumination                 | Color: 0.07Lux (F1.3)<br>BW: 0Lux (IR LED)                                                       | Color: 0.015Lux (F1.4)<br>B/W: 0.0015Lux (F1.4)                                              | Color: 0.015Lux (F1.4)<br>B/W: 0.0015Lux (F1.4)                                              | Color: 0.015Lux (F1.4)<br>B/W: 0.0015Lux (F1.4)                                              | Color: 0.015Lux (F1.4)<br>B/W: 0.0015Lux (F1.4)                                              |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                   | CVBS 1.0Vp-p, Micro USB type B                                                               | CVBS 1.0Vp-p, Micro USB type B                                                               | Micro USB type B                                                                             | Micro USB type B                                                                             |
| Focal Length (Zoom Ratio)         | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                        | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                     | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                     | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                     | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                     |
| Angular Field of View             | H: 92.1°(Wide) ~ 38.7°(Tele)<br>V: 67.2°(Wide) ~ 29°(Tele)<br>D: 119.9°(Wide) ~ 48.6°(Tele)      | H: 119.5°(Wide) ~ 27.9°(Tele)<br>V: 62.8°(Wide) ~ 15.7°(Tele)<br>D: 142.1°(Wide) ~ 32°(Tele) | H: 119.5°(Wide) ~ 27.9°(Tele)<br>V: 62.8°(Wide) ~ 15.7°(Tele)<br>D: 142.1°(Wide) ~ 32°(Tele) | H: 119.5°(Wide) ~ 27.9°(Tele)<br>V: 62.8°(Wide) ~ 15.7°(Tele)<br>D: 142.1°(Wide) ~ 32°(Tele) | H: 119.5°(Wide) ~ 27.9°(Tele)<br>V: 62.8°(Wide) ~ 15.7°(Tele)<br>D: 142.1°(Wide) ~ 32°(Tele) |
| Pan / Tilt / Rotate Range         | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                               | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                           | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                           | ± 175° / 0 ~ 85° / ± 175° (Remote)                                                           | ± 175° / 0 ~ 85° / ± 175° (Remote)                                                           |
| IR Viewable Length                | 50m (164.04ft)                                                                                   | —                                                                                            | —                                                                                            | —                                                                                            | —                                                                                            |
| Day & Night                       | Auto (ICR)                                                                                       |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Wide Dynamic Range                | 120dB                                                                                            | 150dB                                                                                        | 150dB                                                                                        | 150dB                                                                                        | 150dB                                                                                        |
| Digital Noise Reduction           | SSNR V                                                                                           |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                   | Support (Built-in Gyro sensor)                                                               | Support (Built-in Gyro sensor)                                                               | Support (Built-in Gyro sensor)                                                               | Support                                                                                      |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification,<br>Audio Playback, Shock detection |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Business Intelligence             | —                                                                                                |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Alarm I/O                         | 1 / 1                                                                                            |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                           | Selectable (mic in/line in),<br>Built-in mic / Line out                                      | Selectable (mic in/line in) / Line out                                                       | Selectable (mic in/line in),<br>Built-in mic / Line out                                      | Selectable (mic in/line in) / Line out                                                       |
| Video Compression                 | H.265 / H.264, MJPEG                                                                             |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| WiseStream                        | WiseStream II                                                                                    |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Streaming                         | Up to 10 Profiles                                                                                |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                               |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI<br>Hanwha Vision Open Platform                                         |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Operating Temperature / Humidity  | -50°C ~ +60°C<br>(-58°F ~ +140°F)<br>* Start up above -35°C (-31°F)                              | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                            | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                            | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                            | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                            |
| Certification                     | IP67, IP66, IP6K9K, IK10+, NEMA4X                                                                | IP52, IK10                                                                                   | IP52, Plenum rate                                                                            | IP52, IK10                                                                                   | IP52, Plenum rate                                                                            |
| Power Consumption                 | PoE: Max 12.95W<br>12VDC: Max 11.7W<br>24VAC: Max 14.9W                                          | PoE: Max 7W<br>12VDC: Max 5.4W                                                               | PoE: Max 7W<br>12VDC: Max 5.4W                                                               | PoE: Max 10W<br>12VDC: Max 8.5W                                                              | PoE: Max 10W<br>12VDC: Max 8.5W                                                              |
| Product Dimensions / Weight       | Ø 180 x 125mm (Ø 7.1" x 4.9")<br>1.75kg (3.86lb)                                                 | Ø 160 x 125mm<br>(Ø 6.3" x 4.92")<br>1.45kg (3.2lb)                                          | Ø 205 x 155mm<br>(Ø 8.07" x 6.1")<br>1.8kg (3.97lb)                                          | Ø 160 x 125mm<br>(Ø 6.3" x 4.92")<br>1.45kg (3.2lb)                                          | Ø 205 x 155mm<br>(Ø 8.07" x 6.1")<br>1.85kg (4.08lb)                                         |
| Additional Features               | Modular structure                                                                                | Modular structure,<br>Anti dust                                                              | Modular structure,<br>Anti dust                                                              | Modular structure,<br>Motorized PTRZ, Anti dust                                              | Modular structure,<br>Motorized PTRZ, Anti dust                                              |



**XND-6081RV**  
2MP IR Dome Camera



**XND-6081RF**  
2MP Flush Mount IR Dome Camera



**XNV-6081Z**  
2MP Vandal Dome Camera



**XNV-6081R**  
2MP IR Vandal Dome Camera

|                                   |                                                                                                       |                                                     |                                                                     |                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                           |                                                     |                                                                     |                                                                     |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                           |                                                     |                                                                     |                                                                     |
| Min. Illumination                 | Color : 0.015 Lux (F1.4)<br>B/W : 0 Lux (IR LED on)                                                   | Color : 0.015 Lux (F1.4)<br>B/W : 0 Lux (IR LED on) | Color : 0.015 lux (F1.4)<br>B/W : 0.0015 Lux (F1.4)                 | Color : 0.015 Lux (F1.4)<br>BW : 0 Lux (IR LED)                     |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                        | CVBS 1.0Vp-p, Micro USB type B                      | Micro USB type B                                                    | CVBS 1.0Vp-p, Micro USB type B                                      |
| Focal Length (Zoom Ratio)         | 2.8 ~ 12mm (4.3x) motorized varifocal                                                                 |                                                     |                                                                     |                                                                     |
| Angular Field of View             | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) |                                                     |                                                                     |                                                                     |
| Pan / Tilt / Rotate Range         | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                                    | 0° ~ 360° / -45° ~ 85° / 0° ~ 355                   | ± 175° / 0° ~ 85° / ± 175° (Remote)                                 | 0° ~ 360° / -45° ~ 85° / 0° ~ 355                                   |
| IR Viewable Length                | 50m (164.04ft)                                                                                        | 50m (164.04ft)                                      | -                                                                   | 50m (164.04ft)                                                      |
| Day & Night                       | Auto (ICR)                                                                                            |                                                     |                                                                     |                                                                     |
| Wide Dynamic Range                | 150dB                                                                                                 |                                                     |                                                                     |                                                                     |
| Digital Noise Reduction           | SSNRV                                                                                                 |                                                     |                                                                     |                                                                     |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                        |                                                     |                                                                     |                                                                     |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification,<br>Audio Playback, Shock detection      |                                                     |                                                                     |                                                                     |
| Business Intelligence             | -                                                                                                     |                                                     |                                                                     |                                                                     |
| Alarm I/O                         | 1 / 1                                                                                                 |                                                     |                                                                     |                                                                     |
| Audio I/O                         | Selectable (mic in/line in),<br>Built-in mic / Line out                                               | Selectable (mic in/line in) / Line out              | Selectable (mic in/line in) / Line out                              | Selectable (mic in/line in) / Line out                              |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                  |                                                     |                                                                     |                                                                     |
| WiseStream                        | WiseStream II                                                                                         |                                                     |                                                                     |                                                                     |
| Streaming                         | Up to 10 Profiles                                                                                     |                                                     |                                                                     |                                                                     |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                    |                                                     |                                                                     |                                                                     |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI<br>Hanwha Vision Open Platform                                              |                                                     |                                                                     |                                                                     |
| Operating Temperature / Humidity  | -25°C ~ +60°C<br>(-13°F ~ +140°F)                                                                     | -25°C ~ +60°C<br>(-13°F ~ +140°F)                   | -50°C ~ +60°C<br>(-58°F ~ +140°F)<br>* Start up above -35°C (-31°F) | -50°C ~ +60°C<br>(-58°F ~ +140°F)<br>* Start up above -35°C (-31°F) |
| Certification                     | IP52, IK10                                                                                            | IP52, Plenum rate                                   | IP67, IP66, IP6K9K, IK10+, NEMA4X                                   | IP67, IP66, IP6K9K, IK10+, NEMA4X                                   |
| Power Consumption                 | PoE : Max 12.95W<br>12VDC : Max 10.8W                                                                 | PoE : Max 12.95W<br>12VDC : Max 10.8W               | PoE : Max 11W<br>12VDC : Max 9.5W<br>24VAC : Max 11W                | PoE : Max 12.95W<br>12VDC : Max 10.8W<br>24VAC : Max 13.3W          |
| Product Dimensions / Weight       | Ø 160 x 125mm (Ø 6.3" x 4.92")<br>1.45kg (3.2lb)                                                      | Ø 205 x 155mm (Ø 8.07" x 6.1")<br>1.8kg (3.97lb)    | Ø 180 x 125mm (Ø 7.1" x 4.9")<br>1.75kg (3.86lb)                    | Ø 180 x 125mm (Ø 7.1" x 4.9")<br>1.75kg (3.86lb)                    |
| Additional Features               | Modular design,<br>Anti dust                                                                          | Modular design, Anti dust                           | Modular structure, Motorized PTRZ                                   | Modular structure                                                   |



**XNV-6081**  
2MP Vandal Dome Camera



**XNB-8000**  
5MP Box Camera



**XNO-8080R**  
5MP IR Bullet Camera



**XNO-8020R/8030R/8040R**  
5MP IR Bullet Camera

|                                   |                                                                                                       |                                                                         |                                                                                                 |                                                                                                                                                  |
|-----------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                           | 1/1.8" CMOS                                                             | 1/1.8" CMOS                                                                                     | 1/1.8" CMOS                                                                                                                                      |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                           | 5MP / 30fps                                                             | 5MP / 30fps                                                                                     | 5MP / 30fps                                                                                                                                      |
| Min. Illumination                 | Color : 0.015 Lux (F1.4)<br>B/W : 0.0015 Lux (F1.4)                                                   | Color : 0.07Lux (F1.2)<br>B/W : 0.007Lux (F1.2)                         | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                | Color : 0.16Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                                                                 |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                        | CVBS 1.0 Vp-p, Micro USB Type B                                         | CVBS 1.0 Vp-p, Micro USB Type B                                                                 | CVBS 1.0 Vp-p, Micro USB Type B                                                                                                                  |
| Focal Length (Zoom Ratio)         | 2.8~12mm (4.3x)<br>motorized varifocal                                                                | —                                                                       | 3.7~9.4mm (2.5x)<br>motorized varifocal                                                         | 3.7mm fixed (XNO-8020R)<br>4.6mm fixed (XNO-8030R)<br>7.0mm fixed (XNO-8040R)                                                                    |
| Angular Field of View             | H : 119.5°(Wide) ~ 27.9°(Tele)<br>V : 62.8°(Wide) ~ 15.7°(Tele)<br>D : 142.1°(Wide) ~ 32°(Tele)       | —                                                                       | H : 100.2°(Wide) ~ 38.7°(Tele)<br>V : 67.2°(Wide) ~ 29°(Tele)<br>D : 119.9°(Wide) ~ 48.6°(Tele) | H : 97.5° / V : 71.9° / D : 126.2° (XNO-8020R)<br>H : 77.9° / V : 57.9° / D : 98.7° (XNO-8030R)<br>H : 50.7° / V : 37.8° / D : 63.8° (XNO-8040R) |
| Pan / Tilt / Rotate Range         | 0° ~ 360° / -45° ~ 85° / 0° ~ 355°                                                                    | —                                                                       | —                                                                                               | —                                                                                                                                                |
| IR Viewable Length                | —                                                                                                     | —                                                                       | 50m (164.04ft)                                                                                  | 30m (98.43ft)                                                                                                                                    |
| Day & Night                       | Auto (ICR)                                                                                            |                                                                         |                                                                                                 |                                                                                                                                                  |
| Wide Dynamic Range                | 150dB                                                                                                 | 120dB                                                                   | 120dB                                                                                           | 120dB                                                                                                                                            |
| Digital Noise Reduction           | SSNR V                                                                                                |                                                                         |                                                                                                 |                                                                                                                                                  |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                        | Support (Built-in Gyro sensor)                                          | Support                                                                                         | Support                                                                                                                                          |
| Analytics                         | Intelligent analytics<br>Audio detection<br>Sound classification<br>Audio Playback<br>Shock detection | Intelligent analytics<br>Audio detection<br>Sound classification        | Intelligent analytics<br>Audio detection<br>Sound classification                                | Intelligent analytics<br>Audio detection<br>Sound classification                                                                                 |
| Business Intelligence             | —                                                                                                     | —                                                                       | —                                                                                               | People counting, Queue management, Heatmap                                                                                                       |
| Alarm I/O                         | 1 / 1                                                                                                 |                                                                         |                                                                                                 |                                                                                                                                                  |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                | Selectable (mic in/line in), Built-in mic / Line out                    | Selectable (mic in/line in) / Line out                                                          | Selectable (mic in/line in) / Line out                                                                                                           |
| Video Compression                 | H.265, H.264, MJPEG                                                                                   | H.265, H.264, MJPEG                                                     | H.265, H.264, MJPEG                                                                             | H.265, H.264, MJPEG                                                                                                                              |
| WiseStream                        | WiseStream II                                                                                         |                                                                         |                                                                                                 |                                                                                                                                                  |
| Streaming                         | Up to 10 Profiles                                                                                     |                                                                         |                                                                                                 |                                                                                                                                                  |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                    |                                                                         |                                                                                                 |                                                                                                                                                  |
| Application Programming Interface | ONVIF Profile S/T, SUNAPI<br>Hanwha Vision Open Platform                                              |                                                                         |                                                                                                 |                                                                                                                                                  |
| Operating Temperature / Humidity  | -50°C ~ +60°C<br>(-58°F ~ +140°F)<br>* Start up above -35°C (-31°F)                                   | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                       | -40°C ~ +55°C<br>(-40°F ~ +131°F)                                                               | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                                                                               |
| Certification                     | IP67, IP66, IP6K9K, IK10+, NEMA4X                                                                     | —                                                                       | IP67, IP66, NEMA4X, IK10                                                                        | IP67, IP66, NEMA4X, IK10                                                                                                                         |
| Power Consumption                 | PoE : Max 7W<br>12VDC : Max 5.4W<br>24VAC : Max 7.1W                                                  | PoE : Max 8.5W<br>12VDC : Max 7.5W<br>24VAC : Max 8.5W                  | PoE : Max 12.95W<br>12VDC : Max 12.5W<br>24VAC : Max 14.5W                                      | PoE : Max 10.3W<br>12VDC : Max 9.3W                                                                                                              |
| Product Dimensions / Weight       | Ø 180 x 125mm (Ø 7.1" x 4.9")<br>1.45kg (3.20lb)                                                      | W 73.1 x H 66.6 x D 147.8mm<br>(2.88" x 2.62" x 5.82")<br>420g (0.93lb) | Ø 91 x 368.6mm<br>(Ø 6.3" x 4.67")<br>2.18kg (4.81lb)                                           | Ø 70 x 296mm<br>(Ø 2.76" x 11.65")<br>1.22kg (2.69lb)                                                                                            |
| Additional Features               | Modular structure                                                                                     | Handover, Hallway View                                                  | Handover, Hallway View                                                                          | Handover, Hallway View                                                                                                                           |





**XND-8080R/8080RV**  
5MP IR Dome Camera



**XND-8020R/8030R/8040R**  
5MP IR Dome Camera



**XND-8020F**  
5MP Flush Mount Dome Camera



**XNV-8080R**  
5MP IR Vandal Dome Camera

|                                   |                                                                                                      |                                                                                                                                                  |                                                                  |                                                                                                      |
|-----------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                          |                                                                                                                                                  |                                                                  |                                                                                                      |
| Resolution / Max. Frame Rate      | H.265, H.264, MJPEG                                                                                  |                                                                                                                                                  |                                                                  |                                                                                                      |
| Min. Illumination                 | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.16Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                                                                 | Color : 0.16Lux (F1.6)<br>B/W : 0.16Lux (F1.6)                   | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                     |
| Video Out                         | CVBS 1.0 Vp-p, Micro USB type B                                                                      | CVBS 1.0 Vp-p, Micro USB type B                                                                                                                  | Micro USB type B                                                 | CVBS 1.0 Vp-p, Micro USB type B                                                                      |
| Focal Length (Zoom Ratio)         | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                            | 3.7mm fixed (XND-8020R)<br>4.6mm fixed (XND-8030R)<br>7.0mm fixed (XND-8040R)                                                                    | 3.7mm fixed                                                      | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                            |
| Angular Field of View             | H : 92.1° (Wide) ~ 38.7° (Tele)<br>V : 67.2° (Wide) ~ 29° (Tele)<br>D : 119.9° (Wide) ~ 48.6° (Tele) | H : 97.5° / V : 71.9° / D : 126.2° (XND-8020R)<br>H : 77.9° / V : 57.9° / D : 98.7° (XND-8030R)<br>H : 50.7° / V : 37.8° / D : 63.8° (XND-8040R) | H : 97.5° / V : 71.9° / D : 126.2°                               | H : 92.1° (Wide) ~ 38.7° (Tele)<br>V : 67.2° (Wide) ~ 29° (Tele)<br>D : 119.9° (Wide) ~ 48.6° (Tele) |
| Pan / Tilt / Rotate Range         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                     | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                                                                 | 0° ~ 355° / 0° ~ 47° / 0° ~ 353°                                 | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                     |
| IR Viewable Length                | 30m (98.43ft)                                                                                        | 30m (98.43ft)                                                                                                                                    | –                                                                | 50m (164.04ft)                                                                                       |
| Day & Night                       | Auto (ICR)                                                                                           | Auto (ICR)                                                                                                                                       | Auto (Electrical)                                                | Auto (ICR)                                                                                           |
| Wide Dynamic Range                | 120dB                                                                                                | 120dB                                                                                                                                            | –                                                                | 120dB                                                                                                |
| Digital Noise Reduction           | SSNR V                                                                                               |                                                                                                                                                  |                                                                  |                                                                                                      |
| Digital Image Stabilization       | Support                                                                                              | Support (Built-in Gyro sensor)                                                                                                                   | Support                                                          | Support                                                                                              |
| Analytics                         | Intelligent analytics<br>Audio detection<br>Sound classification                                     | Intelligent analytics<br>Audio detection<br>Sound classification                                                                                 | Intelligent analytics<br>Audio detection<br>Sound classification | Intelligent analytics<br>Audio detection<br>Sound classification                                     |
| Business Intelligence             | –                                                                                                    | People counting,<br>Queue management, Heatmap                                                                                                    | People counting,<br>Queue management, Heatmap                    | –                                                                                                    |
| Alarm I/O                         | 1 / 1                                                                                                | 1 / 1                                                                                                                                            | –                                                                | 1 / 1                                                                                                |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                               | Selectable (mic in/line in), Built-in mic / Line out                                                                                             | Built-in mic / –                                                 | Selectable (mic in/line in) / Line out                                                               |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                 |                                                                                                                                                  |                                                                  |                                                                                                      |
| WiseStream                        | WiseStream II                                                                                        |                                                                                                                                                  |                                                                  |                                                                                                      |
| Streaming                         | Up to 10 Profiles                                                                                    |                                                                                                                                                  |                                                                  |                                                                                                      |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                   |                                                                                                                                                  |                                                                  |                                                                                                      |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                          | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                                                                        | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform        | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                          |
| Operating Temperature             | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                    | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                                                                | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                | –40°C ~ +55°C<br>(–40°F ~ +131°F)                                                                    |
| Certification                     | IK08                                                                                                 | IK08                                                                                                                                             | –                                                                | IP67, IP66, NEMA4X, IK10                                                                             |
| Power Consumption                 | PoE : Max 10W<br>12VDC : Max 9W                                                                      | PoE : Max 9W<br>12VDC : Max 8W                                                                                                                   | PoE : Max 4.7W                                                   | PoE : Max 12.95W<br>12VDC : Max 11.5W<br>24VAC : Max 14W                                             |
| Operating Temperature / Humidity  | Ø140.8 x 113mm (Ø5.54" x 4.45")<br>628g (1.38lb) (XND-8080R)<br>732g (1.61lb) (XND-8080RV)           | Ø110 x 90mm (Ø4.33" x 3.54")<br>380g (0.84lb)                                                                                                    | Ø98.9 x 129.1mm (Ø3.89" x 5.08")<br>275g (0.61lb)                | Ø160 x 118.5mm (Ø6.3" x 4.67")<br>1.01kg (2.23lb)                                                    |
| Additional Features               | Handover, Hallway View                                                                               |                                                                                                                                                  |                                                                  |                                                                                                      |



**XNV-8080RSA**  
5MP Stainless IR Vandal Dome Camera



**XNV-8020R/8030R/8040R**  
5MP IR Vandal Dome Camera



**XNF-9010RV/9010RVM**  
12MP IR Fisheye Camera

|                                   |                                                                                                      |                                                                                                                                                  |                                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/1.8" CMOS                                                                                          | 1/1.8" CMOS                                                                                                                                      | 1/2.3" 12MP CMOS                                                                                               |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                                                          | 5MP / 30fps                                                                                                                                      | 3008 x 3008 / 30fps                                                                                            |
| Min. Illumination                 | Color : 0.07Lux (F1.3)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.16Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                                                                 | Color : 0.39Lux (F2.2)<br>BW : 0Lux (IR LED on)                                                                |
| Video Out                         | CVBS 1.0 Vp-p, Micro USB type B                                                                      |                                                                                                                                                  |                                                                                                                |
| Focal Length (Zoom Ratio)         | 3.9 ~ 9.4mm (2.4x)<br>motorized varifocal                                                            | 3.7mm fixed (XNV-8020R)<br>4.6mm fixed (XNV-8030R)<br>7.0mm fixed (XNV-8040R)                                                                    | 1.08mm fixed focal                                                                                             |
| Angular Field of View             | H : 92.1° (Wide) ~ 38.7° (Tele)<br>V : 67.2° (Wide) ~ 29° (Tele)<br>D : 119.9° (Wide) ~ 48.6° (Tele) | H : 97.5° / V : 71.9° / D : 126.2° (XNV-8020R)<br>H : 77.9° / V : 57.9° / D : 98.7° (XNV-8030R)<br>H : 50.7° / V : 37.8° / D : 63.8° (XNV-8040R) | H : 187° / V : 187° / D : 187°                                                                                 |
| Pan / Tilt / Rotate Range         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                     | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                                                                 | —                                                                                                              |
| IR Viewable Length                | 50m (164.04ft)                                                                                       | 30m (98.43ft)                                                                                                                                    | 10m (32.8ft), Wise IR                                                                                          |
| Day & Night                       | Auto (ICR)                                                                                           |                                                                                                                                                  |                                                                                                                |
| Wide Dynamic Range                | 120dB                                                                                                | 120dB                                                                                                                                            | extremeWDR (120dB)                                                                                             |
| Digital Noise Reduction           | SSNR V                                                                                               |                                                                                                                                                  |                                                                                                                |
| Digital Image Stabilization       | Support                                                                                              | Support (Built-in Gyro sensor)                                                                                                                   | —                                                                                                              |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification                                         |                                                                                                                                                  |                                                                                                                |
| Business Intelligence             | —                                                                                                    | People counting,<br>Queue management, Heatmap                                                                                                    | People counting,<br>Queue management, Heatmap                                                                  |
| Alarm I/O                         | 1 / 1                                                                                                | 1 / 1                                                                                                                                            | 2 configured I / O                                                                                             |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                               | Selectable (mic in/line in) / Line out                                                                                                           | Selectable (mic in/line in),<br>Built-in mic / Line out                                                        |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                 |                                                                                                                                                  |                                                                                                                |
| WiseStream                        | WiseStream II                                                                                        |                                                                                                                                                  |                                                                                                                |
| Streaming                         | Up to 10 Profiles                                                                                    |                                                                                                                                                  |                                                                                                                |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                   |                                                                                                                                                  |                                                                                                                |
| Application Programming Interface | ONVIF profile S/G, SUNAPI<br>Hanwha Vision Open Platform                                             | ONVIF profile S/G, SUNAPI<br>Hanwha Vision Open Platform                                                                                         | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                         |
| Operating Temperature / Humidity  | -40°C ~ +55°C<br>(-40°F ~ +131°F)                                                                    | -30°C ~ +55°C<br>(-22°F ~ +131°F)                                                                                                                | -40°C ~ +60°C (-40°F ~ +140°F) /<br>0 ~ 95% RH                                                                 |
| Certification                     | IP66, NEMA4X, IP6K9K, IK10+                                                                          | IP66, IP67, IK10                                                                                                                                 | IP66, IK10, NEMA4X,<br>EN50155 class T3 (XNF-9010RVM only)                                                     |
| Power Consumption                 | PoE : Max 12.95W<br>12VDC : Max 11.5W<br>24VAC : Max 14W                                             | PoE : Max 9W<br>12VDC : Max 8W                                                                                                                   | PoE : Max 12.95W, typical 11W<br>12VDC : Max 11W, typical 9.1W                                                 |
| Product Dimensions / Weight       | Ø 160 X 120.5mm (Ø 6.38" x 4.74")<br>2.8kg (6.17lb)                                                  | Ø 120 x 97.5mm (Ø 4.72" x 3.84")<br>615g (1.36lb)                                                                                                | Ø 160 x 72mm (Ø 6.38" x 2.83")<br>1.1kg (2.43lb)                                                               |
| Additional Features               | Handover, Hallway View                                                                               | Handover, Hallway View                                                                                                                           | Various mode support (Original, Double panorama,<br>Single panorama, Quad view)<br>M12 Connector (XNF-9010RVM) |



**XNF-9010RS**  
12MP IR Fisheye Camera



**XNF-8010R/8010RV/8010RVM**  
6MP IR Fisheye Camera



**XNB-6005**  
2MP Box Camera (extraLUX)



**XNB-6000**  
2MP Box Camera

|                                   |                                                                                                                                                          |                                                                                                                                                                |                                                                      |                                                                      |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|
| Imaging Device                    | 1/2.3" 12MP CMOS                                                                                                                                         | 1/1.8" CMOS                                                                                                                                                    | 1/2" CMOS                                                            | 1/2.8" CMOS                                                          |
| Resolution / Max. Frame Rate      | 3008 x 3008 / 30fps                                                                                                                                      | 2048 x 2048 / 30fps                                                                                                                                            | 2MP / 60fps                                                          | 2MP / 60fps                                                          |
| Min. Illumination                 | Color: 0.39 Lux (F2.2, 1/30sec)<br>BW: 0Lux (IR LED on)                                                                                                  | Color: 0.1Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                                                                                  | Color: 0.006Lux (F1.2)<br>B/W: 0.0006Lux (F1.2)                      | Color: 0.01Lux (F1.2)<br>B/W: 0.001Lux (F1.2)                        |
| Video Out                         | CVBS: 1.0 Vp-p, Micro USB Type B                                                                                                                         |                                                                                                                                                                |                                                                      |                                                                      |
| Focal Length (Zoom Ratio)         | 1.08mm fixed focal                                                                                                                                       | 1.6mm fixed                                                                                                                                                    | —                                                                    | —                                                                    |
| Angular Field of View             | H: 187° / V: 187° / D: 187°                                                                                                                              | H: 192° / V: 192° / D: 192°                                                                                                                                    | —                                                                    | —                                                                    |
| Pan / Tilt / Rotate Range         | —                                                                                                                                                        | —                                                                                                                                                              | —                                                                    | —                                                                    |
| IR Viewable Length                | 9m (29.53ft), Wise IR                                                                                                                                    | 15m (49.21ft)                                                                                                                                                  | —                                                                    | —                                                                    |
| Day & Night                       | Auto (ICR)                                                                                                                                               | Auto (ICR)                                                                                                                                                     | Auto (ICR)                                                           | Auto (ICR)                                                           |
| Wide Dynamic Range                | extremeWDR (120dB)                                                                                                                                       | 120dB                                                                                                                                                          | 150dB                                                                | 150dB                                                                |
| Digital Noise Reduction           | SSNR V                                                                                                                                                   | SSNR V                                                                                                                                                         | SSNR V                                                               | SSNR V                                                               |
| Digital Image Stabilization       | —                                                                                                                                                        | —                                                                                                                                                              | Support (Built-in Gyro sensor)                                       | Support (Built-in Gyro sensor)                                       |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification                                                                                             |                                                                                                                                                                |                                                                      |                                                                      |
| Business Intelligence             | People counting,<br>Queue management, Heatmap                                                                                                            | People counting,<br>Queue management, Heatmap                                                                                                                  | —                                                                    | —                                                                    |
| Alarm I/O                         | 2 configured I/O                                                                                                                                         | 1 / 1                                                                                                                                                          | 1 / 1                                                                | 1 / 1                                                                |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                                                                                   | Selectable (mic in/line in),<br>Built-in mic / Line out                                                                                                        | Selectable (mic in/line in),<br>Built-in mic / Line out              | Selectable (mic in/line in),<br>Built-in mic / Line out              |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                                                     |                                                                                                                                                                |                                                                      |                                                                      |
| WiseStream                        | WiseStream II                                                                                                                                            |                                                                                                                                                                |                                                                      |                                                                      |
| Streaming                         | Up to 10 Profiles                                                                                                                                        |                                                                                                                                                                |                                                                      |                                                                      |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                                                                       |                                                                                                                                                                |                                                                      |                                                                      |
| Application Programming Interface | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                   | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                                                                                    | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform            | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform            |
| Operating Temperature / Humidity  | -40°C ~ +50°C (-40°F ~ +122°F) /<br>0~95% RH                                                                                                             | -10°C ~ +55°C (+14°F ~ +131°F) (XNF-8010R)<br>-40°C ~ +55°C (-40°F ~ +131°F) (XNF-8010RV/8010RVM)                                                              | -10°C ~ +55°C (+14°F ~ +131°F)                                       | -10°C ~ +55°C (+14°F ~ +131°F)                                       |
| Certification                     | IP66, IP67, IP6K9K, NEMA4X, IK10, IK10+<br>(it can resist impacts of 40 joules), NSF, ANSI Standard 169<br>- Special Purpose Food Equipment and Devices. | IP66, IK10 (XNF-8010RV/8010RVM)                                                                                                                                | —                                                                    | —                                                                    |
| Power Consumption                 | PoE: Max 12.95W, typical 11W<br>12VDC: Max 11W, typical 9.1W                                                                                             | PoE: Max 12W, 12VDC: Max 11W (XNF-8010R)<br>PoE: Max 12.95W, 12VDC: Max 12W (XNF-8010RV/8010RVM)                                                               | PoE: Max 8.5W<br>12VDC: Max 8W<br>24VAC: Max 9W                      | PoE: Max 7.5W<br>12VDC: Max 6.5W<br>24VAC: Max 8W                    |
| Product Dimensions / Weight       | Ø 167.9 x 72.1mm (Ø 6.61" x 2.838")<br>2.98kg (6.57lb)                                                                                                   | Ø 146 x 54.8mm (Ø 5.75" x 2.16")<br>730g (1.61lb) (XNF-8010R)<br>Ø 146 x 65.8mm (Ø 5.75" x 2.59")<br>785g (1.73lb) (XNF-8010RV)<br>790g (1.74lb) (XNF-8010RVM) | W 73.1 x H 66.6 x D 147.8mm (2.88" x 2.62" x 5.82")<br>420g (0.93lb) | W 73.1 x H 66.6 x D 147.8mm (2.88" x 2.62" x 5.82")<br>420g (0.93lb) |
| Additional Features               | Various mode support<br>(Original, Double panorama, Single panorama, Quad view)                                                                          | M12 Connector (XNF-8010RVM),<br>Built-in MIC, On board dewarping                                                                                               | Handover, Hallway View                                               | Handover, Hallway View                                               |



**XNB-6001**  
2MP Remote Head Camera



**SLA-T4680/T4680V**  
2MP lens for XNB-6001



**SLA-T2480/T2480V**  
2MP lens for XNB-6001



**SLA-T1080F**  
2MP lens for XNB-6001

|                                   |                                                                    |                                                                                                                                                                                           |                                                                                                                                                                                             |                                                                               |
|-----------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Imaging Device                    | –                                                                  | 1/2.8" CMOS                                                                                                                                                                               | 1/2.8" CMOS                                                                                                                                                                                 | 1/2.8" CMOS                                                                   |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                        | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Min. Illumination                 | –                                                                  | Color : 0.06Lux (F2.5)<br>B/W : 0.06Lux (F2.5)                                                                                                                                            | Color : 0.45Lux (F2.0)<br>B/W : 0.45Lux (F2.0)                                                                                                                                              | Color : 0.03Lux (F1.6)                                                        |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                     | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Focal Length (Zoom Ratio)         | –                                                                  | 4.6mm Pinhole                                                                                                                                                                             | 2.4mm fixed                                                                                                                                                                                 | 1.6mm fisheye                                                                 |
| Angular Field of View             | –                                                                  | H : 73° / V : 39° / D : 85°                                                                                                                                                               | H : 138° / V : 73° / D : 168°                                                                                                                                                               | H : 187° / V : 113.9°                                                         |
| Pan / Tilt / Rotate Range         | –                                                                  |                                                                                                                                                                                           |                                                                                                                                                                                             |                                                                               |
| IR Viewable Length                | –                                                                  |                                                                                                                                                                                           |                                                                                                                                                                                             |                                                                               |
| Day & Night                       | –                                                                  | Auto (Electrical)                                                                                                                                                                         | Auto (Electrical)                                                                                                                                                                           | Auto (Electrical)                                                             |
| Wide Dynamic Range                | 120dB                                                              | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Digital Noise Reduction           | SSNR V                                                             | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Digital Image Stabilization       | Support                                                            | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Analytics                         | Intelligent analytics<br>Audio detection                           | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Business Intelligence             | People counting,<br>Queue management, Heatmap                      | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Alarm I/O                         | 1 / 1                                                              | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Audio I/O                         | Selectable (mic in/line in) / Line out                             | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Video Compression                 | H.265 / H.264, MJPEG                                               | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| WiseStream                        | WiseStream II                                                      | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Streaming                         | Up to 10 Profiles                                                  | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Edge Storage                      | SD/SDHC/SDXC                                                       | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform          | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Operating Temperature / Humidity  | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                  |                                                                                                                                                                                           |                                                                                                                                                                                             |                                                                               |
| Certification                     | –                                                                  |                                                                                                                                                                                           |                                                                                                                                                                                             |                                                                               |
| Power Consumption                 | PoE : Max 6W<br>12VDC : Max 6.5W                                   | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |
| Product Dimensions / Weight       | W 131.1 x H 28 x D 86mm<br>(5.16" x 1.1" x 3.39")<br>245g (0.54lb) | Ø24 x 42mm (Ø0.94" x 1.65") (Lens)<br>8m (314.96") (Cable) 310g (0.68lb) (SLA-T4680)<br>30 x 20.2 x 45mm (1.18" x 0.8" x 1.77") (Lens)<br>8m (314.96") (Cable) 321g (0.71lb) (SLA-T4680V) | Ø24 x 49.8mm (Ø0.94" x 1.96") (Lens)<br>8m (314.96") (Cable) 318g (0.70lb) (SLA-T2480)<br>30 x 27.9 x 45mm (1.18" x 0.1" x 1.77") (Lens)<br>8m (314.96") (Cable) 328g (0.72lb) (SLA-T2480V) | Ø35 x 68.9mm (Ø1.38" x 2.71") (Lens)<br>8m (314.96") (Cable)<br>321g (0.71lb) |
| Additional Features               | Handover, Hallway View                                             | –                                                                                                                                                                                         | –                                                                                                                                                                                           | –                                                                             |



**XNO-6120R**  
2MP IR Bullet Camera



**XNO-6085R**  
2MP IR Bullet Camera (extraLUX)



**XNO-6080R**  
2MP IR Bullet Camera



**XNO-L6080R**  
2MP IR Bullet Camera



**XNO-6010R/6020R**  
2MP IR Bullet Camera

|                                   |                                                                                                     |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                         | 1/2" CMOS                                                                                       | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                       | 1/2.8" CMOS                                                                                                       |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                         |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Min. Illumination                 | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                    | Color : 0.004Lux (F0.94)<br>B/W : 0Lux (IR LED on)                                              | Color : 0.015Lux (F1.4)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.03lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                  | Color : 0.055lux (F2.0) (XNO-6010R)<br>Color : 0.015lux (F1.4) (XNO-6020R)<br>B/W : 0Lux (IR LED On)              |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                      |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Focal Length (Zoom Ratio)         | 5.2 ~ 62.4mm (Optical 12x)                                                                          | 4.1 ~ 16.4mm (Optical 4x)<br>motorized varifocal                                                | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                              | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                          | 2.4mm fixed (XNO-6010R)<br>4mm fixed (XNO-6020R)                                                                  |
| Angular Field of View             | H : 54.58° (Wide) ~ 5.3° (Tele)<br>V : 32.19° (Wide) ~ 3° (Tele)<br>D : 61.4° (Wide) ~ 6.06° (Tele) | H : 100° (Wide) ~ 26.2° (Tele)<br>V : 54° (Wide) ~ 14.8° (Tele)<br>D : 116° (Wide) ~ 30° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) | H : 139° V : 73° D : 167°<br>(XNO-6010R)<br>H : 88.6° V : 47.5° D : 104.8°<br>(XNO-6020R)                         |
| Pan / Tilt / Rotate Range         | -                                                                                                   |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| IR Viewable Length                | 70m (229.66ft)                                                                                      | 70m (229.66ft)                                                                                  | 50m (164.04ft)                                                                                        | 30m (98.42ft)                                                                                     | 20m (65.62ft) (XNO-6010R)<br>30m (98.43ft) (XNO-6020R)                                                            |
| Day & Night                       | Auto (ICR)                                                                                          |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Wide Dynamic Range                | 150dB                                                                                               |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Digital Noise Reduction           | SSNR V                                                                                              |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Digital Image Stabilization       | Support                                                                                             | Support                                                                                         | Support                                                                                               | Support                                                                                           | Support                                                                                                           |
| Analytics                         | Intelligent analytics<br>Audio detection<br>Sound classification                                    | Intelligent analytics<br>Audio detection<br>Sound classification                                | Intelligent analytics<br>Audio detection<br>Sound classification                                      | Intelligent analytics                                                                             | Intelligent analytics<br>Audio detection<br>Sound classification                                                  |
| Business Intelligence             | -                                                                                                   | -                                                                                               | -                                                                                                     | -                                                                                                 | People counting,<br>Queue management, Heatmap                                                                     |
| Alarm I/O                         | 1 / 1                                                                                               | 1 / 1                                                                                           | 1 / 1                                                                                                 | -                                                                                                 | 1 / 1                                                                                                             |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                              | Selectable (mic in/line in) / Line out                                                          | Selectable (mic in/line in) / Line out                                                                | -                                                                                                 | Selectable (mic in/line in) / Line out                                                                            |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| WiseStream                        | WiseStream II                                                                                       |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Streaming                         | Up to 10 Profiles                                                                                   |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                  |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Wisenet open platform                                                 | ONVIF profile S/G, SUNAPI,<br>Wisenet open platform                                             | ONVIF profile S/G/T, SUNAPI,<br>Wisenet open platform                                                 | ONVIF profile S/G, SUNAPI,<br>Wisenet open platform                                               | ONVIF profile S/G/T, SUNAPI,<br>Wisenet open platform                                                             |
| Operating Temperature / Humidity  | -40°C ~ +55°C<br>(-40°F ~ +131°F)<br>* Start up above -35°C (-31°F)                                 | -40°C ~ +55°C<br>(-40°F ~ +131°F)<br>* Start up above -35°C (-31°F)                             | -40°C ~ +55°C<br>(-40°F ~ +131°F)                                                                     | -40°C ~ +55°C<br>(-40°F ~ +131°F)                                                                 | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C                                                       |
| Certification                     | IP67, IP66, NEMA 4X, IK10                                                                           | IP67, IP66, NEMA 4X, IK10                                                                       | IP67, IP66, NEMA 4X, IK10                                                                             | IP66, IK10                                                                                        | IP67, IP66, NEMA 4X, IK10                                                                                         |
| Power Consumption                 | PoE : Max 12.95W<br>12VDC : Max 12.5W<br>24VAC : Max 14.5W                                          | PoE : Max 12.95W<br>12VDC : Max 11.5W<br>24VAC : Max 12.95W                                     | PoE : Max 12.95W<br>12VDC : Max 12W<br>24VAC : Max 15W                                                | PoE : Max. 11W                                                                                    | PoE : Max 9.7W<br>12VDC : Max 8.8W                                                                                |
| Product Dimensions / Weight       | Ø91 x 368.6mm (Ø3.58" x 14.51")<br>2.18kg (4.81lb)                                                  | Ø91 x 388.6mm (Ø3.58" x 15.3")<br>2.35kg (5.18lb)                                               | Ø91 x 368.6mm (Ø3.58" x 14.51")<br>2.18kg (4.81lb)                                                    | Ø91 x 322.9mm (Ø3.58" x 12.71")<br>1.29kg (4.25lb)                                                | Ø70 x 301.5mm (Ø2.76" x 11.87")<br>(XNO-6010R)<br>Ø70 x 296mm (Ø2.76" x 11.65")<br>(XNO-6020R)<br>1.22kg (2.69lb) |
| Additional Features               | Handover, Hallway View                                                                              |                                                                                                 |                                                                                                       |                                                                                                   |                                                                                                                   |



**XND-6085/6085V**  
2MP Dome Camera (extraLUX)



**XND-6080/6080V**  
2MP Dome Camera



**XND-6080R/6080RV**  
2MP IR Dome Camera



**XND-L6080R/L6080RV**  
2MP IR Dome Camera



**XND-L6080V**  
2MP Dome Camera

|                                   |                                                                                                 |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2" CMOS                                                                                       | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                       | 1/2.8" CMOS                                                                                       |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                     |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Min. Illumination                 | Color : 0.004Lux (F0.94)<br>B/W : 0.0004Lux (F0.94)                                             | Color : 0.015Lux (F1.4)<br>B/W : 0.0015Lux (F1.4)                                                     | Color : 0.015Lux (F1.4)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                  | Color : 0.03Lux (F1.6)<br>B/W : 0.01Lux (F1.6)                                                    |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                  |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Focal Length (Zoom Ratio)         | 4.1~16.4mm (Optical 4x)                                                                         | 2.8~12mm (4.3x)<br>motorized varifocal                                                                | 2.8~12mm (4.3x)<br>motorized varifocal                                                                | 3.2~10mm (3.1x)<br>motorized varifocal                                                            | 3.2~10mm (3.1x)<br>motorized varifocal                                                            |
| Angular Field of View             | H : 100° (Wide) ~ 26.2° (Tele)<br>V : 54° (Wide) ~ 14.8° (Tele)<br>D : 116° (Wide) ~ 30° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) |
| Pan / Tilt / Rotate Range         | ± 175° / ± 73° / ± 175°                                                                         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                      | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                      | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                  | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                  |
| IR Viewable Length                | –                                                                                               | –                                                                                                     | 30m (98.43ft)                                                                                         | 30m (98.42ft)                                                                                     | –                                                                                                 |
| Day & Night                       | Auto (ICR)                                                                                      |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Wide Dynamic Range                | –                                                                                               | 150dB                                                                                                 | 150dB                                                                                                 | 120dB                                                                                             | 120dB                                                                                             |
| Digital Noise Reduction           | SSNR V                                                                                          |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                  | Support                                                                                               | Support                                                                                               | Support                                                                                           | Support                                                                                           |
| Analytics                         | Intelligent analytics<br>Audio detection<br>Sound classification                                | Intelligent analytics<br>Audio detection<br>Sound classification                                      | Intelligent analytics<br>Audio detection<br>Sound classification                                      | Intelligent analytics                                                                             | Intelligent analytics                                                                             |
| Business Intelligence             | –                                                                                               |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Alarm I/O                         | 1 / 1                                                                                           | 1 / 1                                                                                                 | 1 / 1                                                                                                 | –                                                                                                 | –                                                                                                 |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                          | Selectable (mic in/line in), Built-in mic / Line out                                                  | Selectable (mic in/line in), Built-in mic / Line out                                                  | –                                                                                                 | –                                                                                                 |
| Video Compression                 | H.265 / H.264, MJPEG                                                                            |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| WiseStream                        | WiseStream II                                                                                   |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Streaming                         | Up to 10 Profiles                                                                               |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Edge Storage                      | SD/SDHC/SDXC                                                                                    | micro SD/SDHC/SDXC                                                                                    | micro SD/SDHC/SDXC                                                                                    | micro SD/SDHC/SDXC                                                                                | micro SD/SDHC/SDXC                                                                                |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                       | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                           | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                           | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                         | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                         |
| Operating Temperature / Humidity  | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –10°C (+14°F)                             | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                     | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                     | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                 | –10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                 |
| Certification                     | IK08                                                                                            |                                                                                                       |                                                                                                       |                                                                                                   |                                                                                                   |
| Power Consumption                 | PoE : Max 10.2W<br>12VDC : Max 8.6W                                                             | PoE : Max 6.5W<br>12VDC : Max 6W                                                                      | PoE : Max 10W<br>12VDC : Max 9W                                                                       | PoE : Max 8W                                                                                      | PoE : Max 6W                                                                                      |
| Product Dimensions / Weight       | Ø 160 x 140mm<br>(Ø 6.3" x 5.51")<br>1.1 kg (2.43lb) (XND-6085)<br>1.25 kg (2.76lb) (XND-6085V) | Ø 140.8 x 113mm<br>(Ø 5.54" x 4.45")<br>610g (1.34lb) (XND-6080)<br>714g (1.57lb) (XND-6080V)         | Ø 140.8 x 113mm<br>(Ø 5.54" x 4.45")<br>624g (1.38lb) (XND-6080R)<br>724g (1.60lb) (XND-6080RV)       | Ø 140.8 x 113mm<br>(Ø 5.54" x 4.45")<br>580g (1.28lb) (XND-L6080R)<br>690g (1.52lb) (XND-L6080RV) | Ø 140.8 x 113mm<br>(Ø 5.54" x 4.45")<br>675g (1.49lb)                                             |
| Additional Features               | Handover, Hallway View                                                                          | Handover, Hallway View                                                                                | Handover, Hallway View                                                                                | Defog, Hallway View                                                                               | Defog, Hallway View                                                                               |





**XND-6020R**  
2MP IR Dome Camera



**XND-6011F**  
2MP Flush Mount Dome Camera



**XND-6010**  
2MP Dome Camera



**XNV-6120/6120R**  
2MP Vandal / IR Vandal Dome Camera

|                                   |                                                              |                                                           |                                                             |                                                                                                                                                |
|-----------------------------------|--------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                  |                                                           |                                                             |                                                                                                                                                |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                  |                                                           |                                                             |                                                                                                                                                |
| Min. Illumination                 | Color : 0.015 Lux (F1.4)<br>B/W : 0Lux (IR LED on)           | Color : 0.055Lux (F2.0)<br>B/W : 0.055Lux (F2.0)          | Color : 0.055Lux (F2.0)<br>B/W : 0.055Lux (F2.0)            | Color : 0.03Lux (F1.6), B/W : 0.003Lux (F1.6) (XNV-6120)<br>Color : 0.03Lux (F1.6), B/W : 0Lux (IR LED on) (XNV-6120R)                         |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                               | Micro USB type B                                          | CVBS 1.0Vp-p, Micro USB type B                              | CVBS 1.0Vp-p, Micro USB type B                                                                                                                 |
| Focal Length (Zoom Ratio)         | 4mm fixed                                                    | 2.8mm fixed                                               | 2.4mm fixed                                                 | 5.2 ~ 62.4mm (Optical 12x)                                                                                                                     |
| Angular Field of View             | H : 88.6° / V : 47.5° / D : 104.8°                           | H : 112° / V : 62° / D : 130°                             | H : 139° / V : 73° / D : 167°                               | H : 54.58° (Wide) ~ 5.3° (Tele)<br>V : 32.19° (Wide) ~ 3° (Tele)<br>D : 61.4° (Wide) ~ 6.06° (Tele)                                            |
| Pan / Tilt / Rotate Range         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                             | 0° ~ 355° / 0° ~ 47° / 0° ~ 353°                          | 0° ~ 354° / 0° ~ 75° / 0° ~ 355°                            | 0° ~ 354° / 0° ~ 75° / 0° ~ 355°                                                                                                               |
| IR Viewable Length                | 30m (98.43ft)                                                | –                                                         | –                                                           | 70m (229.66ft) (XNV-6120R)                                                                                                                     |
| Day & Night                       | Auto (ICR)                                                   | Auto (Electrical)                                         | Auto (ICR)                                                  | Auto (ICR)                                                                                                                                     |
| Wide Dynamic Range                | 150dB                                                        | –                                                         | 150dB                                                       | 150dB                                                                                                                                          |
| Digital Noise Reduction           | SSNRV                                                        |                                                           |                                                             |                                                                                                                                                |
| Digital Image Stabilization       | Support                                                      | Support                                                   | Support                                                     | Support (Built-in Gyro sensor)                                                                                                                 |
| Analytics                         | Intelligent analytics, Audio detection, Sound classification |                                                           |                                                             |                                                                                                                                                |
| Business Intelligence             | People counting,<br>Queue management, Heatmap                | People counting,<br>Queue management, Heatmap             | People counting,<br>Queue management, Heatmap               | –                                                                                                                                              |
| Alarm I/O                         | 1 / 1                                                        | –                                                         | 1 / 1                                                       | 1 / 1                                                                                                                                          |
| Audio I/O                         | Selectable (mic in/line in), Built-in mic / Line out         | Built-in mic / –                                          | Selectable (mic in/line in), Built-in mic / Line out        | Selectable (mic in/line in) / Line out                                                                                                         |
| Video Compression                 | H.265 / H.264, MJPEG                                         |                                                           |                                                             |                                                                                                                                                |
| WiseStream                        | WiseStream II                                                |                                                           |                                                             |                                                                                                                                                |
| Streaming                         | Up to 10 Profiles                                            |                                                           |                                                             |                                                                                                                                                |
| Edge Storage                      | SD/SDHC/SDXC                                                 | SD/SDHC/SDXC                                              | micro SD/SDHC/SDXC                                          | SD/SDHC/SDXC                                                                                                                                   |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform    | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                                                                    |
| Operating Temperature / Humidity  | –10°C ~ +55°C<br>(+14°F ~ +131°F)                            | –10°C ~ +55°C<br>(+14°F ~ +131°F)                         | –10°C ~ +55°C<br>(+14°F ~ +131°F)                           | –40°C ~ +55°C<br>(–40°F ~ +131°F)<br>* Start up above –35°C (–31°F)                                                                            |
| Certification                     | IK08                                                         | –                                                         | IK08                                                        | IP67, IP66, NEMA 4X, IK10                                                                                                                      |
| Power Consumption                 | PoE : Max 9W<br>12VDC : Max 8W                               | PoE : Max 4.7W                                            | PoE : Max 6.5W<br>12VDC : Max 6W                            | PoE : Max. 7.8W, 12V DC : Max 7W,<br>24V AC : Max. 8.2W (XNV-6120)<br>PoE : Max. 12.95W, 12V DC : Max. 11.5W,<br>24V AC : Max. 14W (XNV-6120R) |
| Product Dimensions / Weight       | Ø110 x 90mm (Ø4.33" x 3.54")<br>380g (0.84lb)                | Ø98.9 x 129mm (Ø3.89" x 5.08")<br>275g (0.61lb)           | Ø140.8 x 113mm (Ø5.54" x 4.45")<br>610g (1.34lb)            | Ø160 x 128.5mm (Ø6.3" x 5.06")<br>985g (2.17lb) (XNV-6120)<br>995g (2.19lb) (XNV-6120R)                                                        |
| Additional Features               | Handover, Hallway View                                       |                                                           |                                                             |                                                                                                                                                |



**XNV-6085**  
2MP Vandal Dome Camera (extraLUX)



**XNV-6080**  
2MP Vandal Dome Camera



**XNV-6080R**  
2MP IR Vandal Dome Camera



**XNV-6080RSA**  
2MP Stainless IR Vandal Dome Camera



**XNV-L6080**  
2MP Vandal Dome Camera

|                                   |                                                                                                 |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2" CMOS                                                                                       | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                           | 1/2.8" CMOS                                                                                       |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                     |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Min. Illumination                 | Color : 0.004Lux (F0.94)<br>B/W : 0.0004Lux (F0.94)                                             | Color : 0.015Lux (F1.4)<br>B/W : 0.015Lux (F1.4)                                                      | Color : 0.015Lux (F1.4)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.015Lux (F1.4)<br>B/W : 0Lux (IR LED on)                                                     | Color : 0.03Lux (F1.6)<br>B/W : 0.01Lux (F1.6)                                                    |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                  |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Focal Length (Zoom Ratio)         | 4.1 ~ 16.4mm (Optical 4x)                                                                       | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                              | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                              | 2.8 ~ 12mm (4.3x)<br>motorized varifocal                                                              | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                          |
| Angular Field of View             | H : 100° (Wide) ~ 26.2° (Tele)<br>V : 54° (Wide) ~ 14.8° (Tele)<br>D : 116° (Wide) ~ 30° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 119.5° (Wide) ~ 27.9° (Tele)<br>V : 62.8° (Wide) ~ 15.7° (Tele)<br>D : 142.1° (Wide) ~ 32° (Tele) | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) |
| Pan / Tilt / Rotate Range         | ± 175° / ± 73° / ± 175°                                                                         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                      | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                      | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                      | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                  |
| IR Viewable Length                | –                                                                                               | –                                                                                                     | 50m (164.04ft)                                                                                        | 50m (164.04ft)                                                                                        | –                                                                                                 |
| Day & Night                       | Auto (ICR)                                                                                      |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Wide Dynamic Range                | 150dB                                                                                           | 150dB                                                                                                 | 150dB                                                                                                 | 150dB                                                                                                 | 120dB                                                                                             |
| Digital Noise Reduction           | SSNR V                                                                                          |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Digital Image Stabilization       | Support (Built-in Gyro sensor)                                                                  | Support                                                                                               | Support                                                                                               | Support                                                                                               | Support                                                                                           |
| Analytics                         | Intelligent analytics<br>Audio detection<br>Sound classification                                | Intelligent analytics<br>Audio detection,<br>Sound classification                                     | Intelligent analytics<br>Audio detection,<br>Sound classification                                     | Intelligent analytics<br>Audio detection,<br>Sound classification                                     | Intelligent analytics                                                                             |
| Business Intelligence             | –                                                                                               |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Alarm I/O                         | 1 / 1                                                                                           | 1 / 1                                                                                                 | 1 / 1                                                                                                 | 1 / 1                                                                                                 | –                                                                                                 |
| Audio I/O                         | Selectable (mic in/line in) / Line out                                                          | Selectable (mic in/line in) / Line out                                                                | Selectable (mic in/line in) / Line out                                                                | Selectable (mic in/line in) / Line out                                                                | –                                                                                                 |
| Video Compression                 | H.265 / H.264, MJPEG                                                                            |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| WiseStream                        | WiseStream II                                                                                   |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Streaming                         | Up to 10 Profiles                                                                               |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                              |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                       | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                           | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                           | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                             | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                         |
| Operating Temperature / Humidity  | –40°C ~ +55°C<br>(–40°F ~ +131°F)<br>* Start up above –35°C (–31°F)                             | –40°C ~ +55°C<br>(–40°F ~ +131°F)                                                                     | –40°C ~ +55°C<br>(–40°F ~ +131°F)                                                                     | –40°C ~ +55°C<br>(–40°F ~ +131°F)                                                                     | –40°C ~ +55°C<br>(–40°F ~ +131°F)                                                                 |
| Certification                     | IP67, IP66, NEMA 4X, IK10                                                                       | IP67, IP66, NEMA 4X, IK10                                                                             | IP67, IP66, NEMA 4X, IK10                                                                             | IP66, NEMA 4X, IP6K9K, IK10+                                                                          | IP66, IK10                                                                                        |
| Power Consumption                 | PoE : Max 12.1W<br>12VDC : Max 11.1W<br>24VAC : Max 13.5W                                       | PoE : Max 7.8W<br>12VDC : Max 7W<br>24VAC : Max 8.2W                                                  | PoE : Max 12.95W<br>12VDC : Max 11.5W<br>24VAC : Max 14W                                              | PoE : Max 12.95W<br>12VDC : Max 11.5W<br>24VAC : Max 14W                                              | PoE : Max 8W                                                                                      |
| Product Dimensions / Weight       | Ø 160 x 140mm (Ø 6.3" x 5.51")<br>1.4kg (3.09lb)                                                | Ø 160 x 118.5mm (Ø 6.3" x 4.67")<br>985g (2.17lb)                                                     | Ø 160 x 118.5mm (Ø 6.3" x 4.67")<br>995g (2.19lb)                                                     | Ø 160 x 120.5mm (Ø 6.3" x 4.74")<br>2.8kg (6.17lb)                                                    | Ø 160 x 118.5mm (Ø 6.3" x 4.67")<br>940g (2.1lb)                                                  |
| Additional Features               | Handover, Hallway View                                                                          |                                                                                                       |                                                                                                       |                                                                                                       |                                                                                                   |



**XNV-L6080R**  
2MP IR Vandal Dome Camera



**XNV-6022R/6022RM**  
2MP Mobile IR Flat Camera



**XNV-6020R**  
2MP IR Vandal Dome Camera



**XNV-6013M**  
2MP Mobile Camera



**XNV-6012M/6012**  
2MP Mobile Flat Camera

|                                   |                                                                                                   |                                                                                    |                                                                    |                                                                          |                                                                                    |
|-----------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                       |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                       |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Min. Illumination                 | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                  | Color : 0.04Lux (F2.0)<br>B/W : 0Lux (IR LED on)                                   | Color : 0.015Lux (F1.4)<br>B/W : 0Lux (IR LED on)                  | Color : 0.04Lux (F2.0)<br>B/W : 0.04Lux (F2.0)                           | Color : 0.04Lux (F2.0)<br>B/W : 0.04Lux (F2.0)                                     |
| Video Out                         | CVBS 1.0Vp-p, Micro USB type B                                                                    | Micro USB Type B                                                                   | CVBS 1.0Vp-p, Micro USB type B                                     | Micro USB Type B                                                         | Micro USB type B                                                                   |
| Focal Length (Zoom Ratio)         | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                          | 3.6mm fixed                                                                        | 4mm fixed                                                          | 2.8mm fixed                                                              | 2.4mm fixed                                                                        |
| Angular Field of View             | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) | H : 94.8° / V : 49.3° / D : 114.3°                                                 | H : 88.6° / V : 47.5° / D : 104.8°                                 | H : 107.4° / V : 62.2° / D : 122°                                        | H : 135.4° / V : 71.2° / D : 161.6°                                                |
| Pan / Tilt / Rotate Range         | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                                                  | ± 5° / 0° ~ 67° / ± 90°                                                            | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                   | ± 5° / ± 10° / ± 90°                                                     | ± 5° / 0° ~ 67° / ± 90°                                                            |
| IR Viewable Length                | 30m (98.43ft)                                                                                     | 15m (49.21ft)                                                                      | 30m (98.43ft)                                                      | —                                                                        | —                                                                                  |
| Day & Night                       | Auto (ICR)                                                                                        | Auto (ICR)                                                                         | Auto (ICR)                                                         | Auto (Electrical)                                                        | Auto (Electrical)                                                                  |
| Wide Dynamic Range                | 120dB                                                                                             | 150dB                                                                              | 150dB                                                              | 150dB                                                                    | 150dB                                                                              |
| Digital Noise Reduction           | SSNRV                                                                                             |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Digital Image Stabilization       | Support                                                                                           | Support (Built-in Gyro sensor)                                                     | Support                                                            | Support (Built-in Gyro sensor)                                           | Support (Built-in Gyro sensor)                                                     |
| Analytics                         | Intelligent analytics                                                                             | Intelligent analytics<br>Audio detection<br>Sound classification (w/ external MIC) | Intelligent analytics<br>Audio detection<br>Sound classification   | Intelligent analytics<br>Audio detection<br>Sound classification         | Intelligent analytics<br>Audio detection<br>Sound classification (w/ external MIC) |
| Business Intelligence             | —                                                                                                 | —                                                                                  | People counting,<br>Queue management, Heatmap                      | —                                                                        | —                                                                                  |
| Alarm I/O                         | —                                                                                                 | —                                                                                  | 1 / 1                                                              | —                                                                        | —                                                                                  |
| Audio I/O                         | —                                                                                                 | Selectable (mic in/line in), Built-in mic / Line out                               | Selectable (mic in/line in) / Line out                             | Selectable (mic in/line in) / Line out                                   | Selectable (mic in/line in), Built-in mic / Line out                               |
| Video Compression                 | H.265 / H.264, MJPEG                                                                              |                                                                                    |                                                                    |                                                                          |                                                                                    |
| WiseStream                        | WiseStream II                                                                                     |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Streaming                         | Up to 5 Profiles                                                                                  | Up to 10 Profiles                                                                  | Up to 10 Profiles                                                  | Up to 10 Profiles                                                        | Up to 10 Profiles                                                                  |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform                                         |                                                                                    |                                                                    |                                                                          |                                                                                    |
| Operating Temperature / Humidity  | -40°C ~ +55°C<br>(-40°F ~ +131°F)                                                                 | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                 | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) | -40°C ~ +60°C<br>(-40°F ~ +140°F)<br>* Start up above -30°C (-22°F)      | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                 |
| Certification                     | IP66, IK10                                                                                        | IP66, IK10, NEMA4X                                                                 | IP67, IP66, IK10                                                   | IP67, IP6K9K, IK10, NEMA4X                                               | IP66, IK10, NEMA4X                                                                 |
| Power Consumption                 | PoE : Max 11W                                                                                     | PoE : Max 6.7W                                                                     | PoE : Max 9W<br>12V DC : Max 8W                                    | PoE : Max 7.2W                                                           | PoE : Max 6.5W                                                                     |
| Product Dimensions / Weight       | Ø 160 x 118.5mm (Ø 6.3" x 4.67")<br>940g (2.07lb)                                                 | W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94")<br>295g (0.65lb)                   | Ø 120 x 97.5mm (Ø 4.72" x 3.84")<br>615g (1.36lb)                  | W 103.7 x H 72.3 x D 126.8mm<br>(4.08" x 2.85" x 4.99")<br>478g (1.04lb) | W 98.9 x H 52 x D 100mm<br>(3.89" x 2.05" x 3.94")<br>295g (0.65lb)                |
| Additional Features               | Handover, Hallway View                                                                            | M12 Connector (XNV-6022RM)<br>Handover, Hallway View                               | Handover, Hallway View                                             | M12 Connector<br>Handover, Hallway View                                  | M12 Connector (XNV-6012M)<br>Handover, Hallway View                                |



**XNV-6011**  
2MP Vandal Dome Camera



**XNV-6010**  
2MP Vandal Dome Camera

PTZ PLUS



**XNP-9300RW**  
8MP 30x Wiper + IR PTZ Camera

PTZ PLUS



**XNP-8300RW**  
6MP 30x Wiper + IR PTZ Camera

PTZ PLUS



**XNP-6400RW**  
2MP 40x Wiper + IR PTZ Camera

|                                   |                                                                    |                                                                    |                                                                                                                                                                                                                         |                                                                |                                                                |
|-----------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                        |                                                                    |                                                                                                                                                                                                                         |                                                                |                                                                |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                        | 2MP / 60fps                                                        | 4K / 30fps                                                                                                                                                                                                              | 6MP / 30fps                                                    | 2MP / 60fps                                                    |
| Min. Illumination                 | Color : 0.055Lux (F2.0)<br>B/W : 0.055Lux (F2.0)                   | Color : 0.055Lux (F2.0)<br>B/W : 0.0055Lux (F2.0)                  | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                                                                     | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)            | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)           |
| Video Out                         | CVBS 1.0Vp–p, Micro USB type B                                     | CVBS 1.0Vpp, Micro USB type B                                      | –                                                                                                                                                                                                                       | –                                                              | –                                                              |
| Focal Length (Zoom Ratio)         | 2.8mm fixed                                                        | 2.4mm fixed                                                        | 5~150mm(30x) zoom<br>(digital 32x, total 960x zoom)                                                                                                                                                                     | 5~150mm(30x) zoom<br>(digital 32x, total 960x zoom)            | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)        |
| Angular Field of View             | H : 112° / V : 62° / D : 130°                                      | H : 139° / V : 73° / D : 167°                                      | H: 57.42° (Wide)~2.19° (Tele)<br>V: 33.54° (Wide)~1.25° (Tele)                                                                                                                                                          | H: 57.42° (Wide)~2.19° (Tele)<br>V: 33.54° (Wide)~1.25° (Tele) | H: 65.66° (Wide)~1.88° (Tele)<br>V: 39.40° (Wide)~1.09° (Tele) |
| Pan / Tilt / Rotate               | 0° ~ 353° / 0° ~ 59° / 0° ~ 353°                                   | 0° ~ 354° / 0° ~ 67° / 0° ~ 355°                                   | 360° Endless / 110° (–20°~90°) / –                                                                                                                                                                                      | 360° Endless / 110° (–20°~90°) / –                             | 360° Endless / 110° (–20°~90°) / –                             |
| IR Viewable Length                | –                                                                  | –                                                                  | 200m(656.17ft), Wise IR                                                                                                                                                                                                 | 200m(656.17ft), Wise IR                                        | 200m(656.17ft), Wise IR                                        |
| Day & Night                       | Auto (Electrical)                                                  | Auto (ICR)                                                         | Auto(ICR)/Color/BW/Schedule                                                                                                                                                                                             | Auto(ICR)/Color/BW/Schedule                                    | Auto(ICR)/Color/BW/Schedule                                    |
| Wide Dynamic Range                | 150dB                                                              | 150dB                                                              | Extreme WDR(120dB)                                                                                                                                                                                                      | Extreme WDR(120dB)                                             | Extreme WDR(150dB)                                             |
| Digital Noise Reduction           | SSNR V                                                             |                                                                    |                                                                                                                                                                                                                         |                                                                |                                                                |
| Digital Image Stabilization       | Support                                                            | Support                                                            | Support (built-in gyro sensor)                                                                                                                                                                                          | Support (built-in gyro sensor)                                 | Support (built-in gyro sensor)                                 |
| Analytics                         | Intelligent analytics                                              | Intelligent analytics<br>Audio detection<br>Sound classification   | Directional detection, Fog detection, Face detection, Motion detection,<br>Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Shock detection<br>* Audio detection, Sound classification(with NWI/O Box) |                                                                |                                                                |
| Business Intelligence             | People counting,<br>Queue management, Heatmap                      | People counting,<br>Queue management, Heatmap                      | –                                                                                                                                                                                                                       | –                                                              | –                                                              |
| Alarm I/O                         | –                                                                  | 1 / 1                                                              | Compatible with NWI/O Box (Optional: SPM–4210)                                                                                                                                                                          |                                                                |                                                                |
| Audio I/O                         | –                                                                  | Selectable (mic in/line in) / Line out                             | Compatible with NWI/O Box (Optional: SPM–4210)                                                                                                                                                                          |                                                                |                                                                |
| Video Compression                 | H.265, H.264, MJPEG                                                |                                                                    |                                                                                                                                                                                                                         |                                                                |                                                                |
| WiseStream                        | WiseStream II                                                      | WiseStream II                                                      | Manual(Sea area), WiseStream II                                                                                                                                                                                         | Manual(Sea area), WiseStream II                                | Manual(Sea area), WiseStream II                                |
| Streaming                         | Up to 10 Profiles                                                  |                                                                    |                                                                                                                                                                                                                         |                                                                |                                                                |
| Edge Storage                      | micro SD/SDHC/SDXC                                                 | micro SD/SDHC/SDXC                                                 | Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)                                                                                                                                                                                  |                                                                |                                                                |
| Application Programming Interface | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform          | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform          | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                    |                                                                |                                                                |
| Operating Temperature             | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –20°C (–4°F) | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –20°C (–4°F) | –40°C ~ +55°C (–40°F ~ +131°F) /<br>+74°C / +165°F (MAX) based on NEMA–TS 2(2.2.7)<br>* Start up should be done at above –30°C<br>0~100%RH(Condensing) Humidity control with AIR vent                                   |                                                                |                                                                |
| Certification                     | IP66, IK10, NEMA4X                                                 | IP67, IP66, IK10                                                   | IP66, IK10, NEMA4X, NEMA–TS 2(2.2.7, 2.2.8, 2.2.9)                                                                                                                                                                      |                                                                |                                                                |
| Power Consumption                 | PoE : Max 6.5W                                                     | PoE : Max 6W / 12V DC : Max 5.5W                                   | Typical 20W, Max 42W                                                                                                                                                                                                    |                                                                |                                                                |
| Dimensions (WxHxD) / Weight       | Ø112.8x63.7mm<br>(Ø4.44" x 2.51")<br>420g (0.93lb)                 | Ø120x97.5mm<br>(Ø4.72" x 3.84")<br>625g (1.38lb)                   | ø 184.9x318.8mm(7.28x12.55") /<br>5400g(11.90lb)                                                                                                                                                                        | ø 184.9x318.8mm(7.28x12.55") /<br>5400g(11.90lb)               | ø 184.9x318.8mm(7.28x12.55") /<br>5400g(11.90lb)               |
| Additional Features               | Handover, Hallway View                                             | Handover, Hallway View                                             | Upgraded preset accuracy, built-in wiper, object auto tracking, Target lock tracking<br>Included SFP slot in HPoE injector                                                                                              |                                                                |                                                                |

## PTZ PLUS



**XNP-9250R**  
8MP 25x IR PTZ Camera

## PTZ PLUS



**XNP-8250R**  
6MP 25x IR PTZ Camera

## PTZ PLUS



**XNP-6400R**  
2MP 40x IR PTZ Camera

## PTZ PLUS



**XNP-9250**  
8MP 25x PTZ Camera

## PTZ PLUS



**XNP-8250**  
6MP 25x PTZ Camera

## PTZ PLUS



**XNP-6400**  
2MP 40x PTZ Camera

|                                   |                                                                                                                                                                                                                       |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                           |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Resolution / Max. Frame Rate      | 4K / 30fps                                                                                                                                                                                                            | 6MP / 30fps                                                                                                                                                                    | 2MP / 60fps                                                                                                                                                                    | 4K / 30fps                                                                                                                                                                     | 6MP / 30fps                                                                                                                                                                    | 2MP / 60fps                                                                                                                                                                    |
| Min. Illumination                 | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                                                                   | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                            | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED On)                                                                                                                           | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0.01Lux(F1.6, 1/30sec)                                                                                                                     | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0.01Lux(F1.6, 1/30sec)                                                                                                                     | Color: 0.05Lux(F1.6, 1/30sec)<br>BW: 0.005Lux(F1.6, 1/30sec)                                                                                                                   |
| Video Out                         | -                                                                                                                                                                                                                     |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Focal Length (Zoom Ratio)         | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                                                                                   | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                                            | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)                                                                                                                        | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                                            | 5~125mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                                            | 4.25~170mm(40x) zoom<br>(digital 32x, total 1280x zoom)                                                                                                                        |
| Angular Field of View             | H: 57.42°(Wide)~2.71°(Tele)<br>V: 33.54°(Wide)~1.55°(Tele)                                                                                                                                                            | H: 57.42°(Wide)~2.71°(Tele)<br>V: 33.54°(Wide)~1.55°(Tele)                                                                                                                     | H: 65.66°(Wide)~1.88°(Tele)<br>V: 39.40°(Wide)~1.09°(Tele)                                                                                                                     | H: 57.42°(Wide)~2.71°(Tele)<br>V: 33.54°(Wide)~1.55°(Tele)                                                                                                                     | H: 57.42°(Wide)~2.71°(Tele)<br>V: 33.54°(Wide)~1.55°(Tele)                                                                                                                     | H: 65.66°(Wide)~1.88°(Tele)<br>V: 39.40°(Wide)~1.09°(Tele)                                                                                                                     |
| Pan / Tilt / Rotate Range         | 360° Endless / 110°(-20°~90°) / -                                                                                                                                                                                     | 360° Endless / 110°(-20°~90°) / -                                                                                                                                              | 360° Endless / 110°(-20°~90°) / -                                                                                                                                              | 360° Endless / 110°(-20°~90°) / -                                                                                                                                              | 360° Endless / 110°(-20°~90°) / -                                                                                                                                              | 360° Endless / 110°(-20°~90°) / -                                                                                                                                              |
| IR Viewable Length                | 200m(656.17ft), Wise IR                                                                                                                                                                                               | 200m(656.17ft), Wise IR                                                                                                                                                        | 200m(656.17ft), Wise IR                                                                                                                                                        | -                                                                                                                                                                              | -                                                                                                                                                                              | -                                                                                                                                                                              |
| Day & Night                       | Auto(ICR)/Color/BW/Schedule                                                                                                                                                                                           | Auto(ICR)/Color/BW/Schedule                                                                                                                                                    | Auto(ICR)/Color/BW/Schedule                                                                                                                                                    | Auto(ICR)/Color/BW/Schedule                                                                                                                                                    | Auto(ICR)/Color/BW/Schedule                                                                                                                                                    | Auto(ICR)/Color/BW/Schedule                                                                                                                                                    |
| Wide Dynamic Range                | Extreme WDR(120dB)                                                                                                                                                                                                    | Extreme WDR(120dB)                                                                                                                                                             | Extreme WDR(150dB)                                                                                                                                                             | Extreme WDR(120dB)                                                                                                                                                             | Extreme WDR(120dB)                                                                                                                                                             | Extreme WDR(150dB)                                                                                                                                                             |
| Digital Noise Reduction           | SSNRV                                                                                                                                                                                                                 |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                         | Support(built-in gyro sensor)                                                                                                                                                  | Support(built-in gyro sensor)                                                                                                                                                  | Support(built-in gyro sensor)                                                                                                                                                  | Support(built-in gyro sensor)                                                                                                                                                  | Support(built-in gyro sensor)                                                                                                                                                  |
| Analytics                         | Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Shock detection<br>* Audio detection, Sound classification(with NW I/O Box) |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Business Intelligence             | -                                                                                                                                                                                                                     |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Alarm I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                                                                       |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Audio I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                                                                       |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Video Compression                 | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| WiseStream                        | Manual(Sea area), WiseStream II                                                                                                                                                                                       |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                     |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                                                          | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                   | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                   | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                   | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                   | Micro SD/SDHC/SDXC 2slot 1TB                                                                                                                                                   |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                  |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Operating Temperature / Humidity  | -40°C~+55°C(-40°F~+131°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent                                        | -40°C~+55°C(-40°F~+122°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent | -40°C~+55°C(-40°F~+131°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent | -40°C~+55°C(-40°F~+131°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent | -40°C~+55°C(-40°F~+131°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent | -40°C~+55°C(-40°F~+122°F) /<br>+74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent |
| Certification                     | IP66, IK10, NEMA4X, NEMA-TS 2(2.2.8, 2.2.9)                                                                                                                                                                           |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |
| Power Consumption                 | Typical 20W, Max 40W                                                                                                                                                                                                  | Typical 20W, Max 40W                                                                                                                                                           | Typical 20W, Max 40W                                                                                                                                                           | Typical 20W, Max 25W                                                                                                                                                           | Typical 20W, Max 25W                                                                                                                                                           | Typical 20W, Max 25W                                                                                                                                                           |
| Product Dimensions / Weight       | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                                                         | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                  | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                  | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                  | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                  | ø 158x293.3mm(6.22x11.55") /<br>3200g(7.05lb)                                                                                                                                  |
| Additional Features               | Upgraded preset accuracy, object auto tracking, Target lock tracking Included SFP slot in HPoE injector                                                                                                               |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |                                                                                                                                                                                |



**XNP-6550RH**  
2MP 55x IR PTZ Camera



**XNP-6120H**  
2MP 12x PTZ Camera



**XNP-6040H**  
2MP 4.3x PTZ Camera



**XNZ-6320A**  
2MP 32x Zoom Camera



**XNZ-L6320A**  
2MP 32x Zoom Camera

|                                   |                                                                                                                                                                                                                     |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Imaging Device                    | 1/2.8" 2MP CMOS                                                                                                                                                                                                     | 1/2.8" 2MP CMOS                                                                                                                                                                 | 1/2.8" 2MP CMOS                                                                          | 1/2.8" 2MP CMOS                                                                 |                                                                 |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                                                                                                                                         |                                                                                                                                                                                 |                                                                                          | 2MP/ 60fps                                                                      |                                                                 |
| Min. Illumination                 | Color : 0.02Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                                                                                                                                    | Color: 0.03 Lux (1/30sec, F1.6, 30IRE)<br>B/W: 0.003 Lux (1/30sec, F1.6, 30IRE)                                                                                                 | Color: 0.015Lux(F1.4, 1/30sec)<br>BW: 0.0015Lux(F1.4, 1/30sec)                           | Color: 0.05Lux (1/30sec, F1.6)<br>B/W: 0.005Lux (1/30sec, F1.6)                 | Color: 0.05Lux (1/30sec, F1.6)<br>B/W: 0.005Lux (1/30sec, F1.6) |
| Video Out                         | CVBS: 1.0 Vp-p / 75 Ω composite, 720x480(N), 720x576(P) for installation                                                                                                                                            | CVBS: 1.0 Vp-p / 75 Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                    |                                                                                          | CVBS 1.0 Vp-p, Micro USB Type B                                                 | CVBS 1.0 Vp-p                                                   |
| Focal Length (Zoom Ratio)         | 4.75~261.4mm(55x) zoom                                                                                                                                                                                              | 5.2~62.4mm(12x) zoom<br>(digital 32x, total 512x zoom)                                                                                                                          | 2.8~12mm(4.3x) zoom<br>(digital 32x, total 137.6x zoom)                                  | 4.44 ~ 142.6mm (Optical 32X)<br>(digital 32x, total 1024x zoom)                 | 4.44 ~ 142.6mm (Optical 32X)<br>(digital 32x, total 1024x zoom) |
| Angular Field of View             | H: 58.6°(Wide)~1.23°(Tele)<br>V: 34.8°(Wide)~0.71°(Tele)                                                                                                                                                            | H: 54.58°(Wide)~5.30°(Tele)<br>V: 32.19°(Wide)~3.00°(Tele)                                                                                                                      | H: 119.5°(Wide)~27.9°(Tele)<br>V: 62.8°(Wide)~15.7°(Tele)<br>D: 142.1°(Wide)~32.0°(Tele) | H: 64.66°(Wide)~2.29°(Tele)<br>V: 38.08°(Wide)~1.30°(Tele)                      | H: 64.66°(Wide)~2.29°(Tele)<br>V: 38.08°(Wide)~1.30°(Tele)      |
| Pan / Tilt / Rotate Range         | 360° Endless / 95° (−5°~90°) / −                                                                                                                                                                                    | 360° Endless / 190° (−5°~185° ) / −                                                                                                                                             | 0°~355° / 0°~90°                                                                         | −                                                                               | −                                                               |
| IR Viewable Length                | 500m(1,640.42ft)                                                                                                                                                                                                    | −                                                                                                                                                                               | −                                                                                        | −                                                                               | −                                                               |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                           |                                                                                                                                                                                 |                                                                                          | Auto(ICR)                                                                       | Auto(ICR)                                                       |
| Wide Dynamic Range                | 150dB                                                                                                                                                                                                               |                                                                                                                                                                                 |                                                                                          | 120dB                                                                           | 120dB                                                           |
| Digital Noise Reduction           | SSNR V                                                                                                                                                                                                              |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                                                                       |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
| Analytics                         | Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification, Shock detection | Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification |                                                                                          | Intelligent analytics, Audio detection, Sound classification<br>Shock detection | Intelligent analytics, Audio detection<br>Sound classification  |
| Business Intelligence             | −                                                                                                                                                                                                                   | −                                                                                                                                                                               | −                                                                                        | −                                                                               | −                                                               |
| Alarm I/O                         | Input 4ea / Output 2ea                                                                                                                                                                                              | Input 1ea / Output 1ea                                                                                                                                                          | Input 1ea / Output 1ea                                                                   | 1 / 2                                                                           | 1 / 1                                                           |
| Audio I/O                         | Selectable(mic in/line in), Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                                               |                                                                                                                                                                                 |                                                                                          | Selectable (mic in/line in) / Line out                                          | Selectable (mic in/line in) / Line out                          |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                                                                  |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
| WiseStream                        | Manual(5ea area), WiseStream II                                                                                                                                                                                     |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                   |                                                                                                                                                                                 |                                                                                          | Up to 10 profiles                                                               | Up to 10 profiles                                               |
| Edge Storage                      | Micro SD/SDHC/SDXC 2slot 512GB                                                                                                                                                                                      | Micro SD/SDHC/SDXC 2slot 512GB                                                                                                                                                  | Micro SD/SDHC/SDXC 2slot 512GB                                                           | Micro SD/SDHC/SDXC 2 slot 512GB                                                 | Micro SD/SDHC/SDXC 1 slot 256GB                                 |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                |                                                                                                                                                                                 |                                                                                          |                                                                                 |                                                                 |
| Operating Temperature / Humidity  | 24VAC : −50°C~+55°C<br>(−58°F ~ +131°F), Less than 95% RH-Non-Condensing<br>HPoE : −40°C~+55°C (−40°F ~ +131°F) / Less than 95% RH-Non-Condensing<br>* Start up should be done at above −35°C FAN/ Heater included  | −30°C~+55°C (−22°F~+131°F) /<br>Less than 90% RH                                                                                                                                | −30°C~+55°C (−22°F~+131°F) /<br>Less than 90% RH                                         | −10°C ~ +55°C(−14°F ~ +131°F) /<br>Less than 90% RH                             | −10°C ~ +55°C(−14°F ~ +131°F) /<br>Less than 90% RH             |
| Certification                     | IP66, IK10                                                                                                                                                                                                          | IP66, IK10                                                                                                                                                                      | IP66, IK10                                                                               | −                                                                               | −                                                               |
| Power Consumption                 | 24VAC: Max. 92W (typical: 30W)<br>HPoE : Max. 60W (typical: 30W)                                                                                                                                                    | Max. 12W                                                                                                                                                                        | DC12V: Max. 8.6W<br>PoE : Max. 9.6W                                                      | PoE: Max 7.5W, Typical 4.5W<br>12VDC: Max 7.0W, Typical 4.0W                    | PoE: Max 7.5W, Typ 5.0W<br>12VDC: Max 5.7W, Typ 3.7W            |
| Product Dimensions / Weight       | ø 236.9x407.7mm(9.33x16.05"), 7.1Kg(15.65 lb)                                                                                                                                                                       | ø 168x161.5mm(6.61x6.36"), 1.9kg(4.19 lb)                                                                                                                                       | ø 136x106mm(5.35x4.17"), 780g(1.72 lb)                                                   | 96 x 76 x 143.5mm(3.78x2.99x5.65"), 578g (1.27 lb)                              | 72 x 63.9 x 135.4mm(2.83x2.52x5.33"), 480g(1.06 lb)             |
| Additional Features               | Defog, Auto tracking                                                                                                                                                                                                |                                                                                                                                                                                 |                                                                                          | Defog                                                                           | Defog                                                           |





**PNM-9031RV**  
15MP 192° IR Panoramic Camera



**PNM-9022V**  
8.3MP 180° / 220° Panoramic Camera



**PNM-9085RQZ1**  
5MP x 4CH IR PTRZ Multi-directional Camera



**PNM-9084RQZ1**  
2MP x 4CH IR PTRZ Multi-directional Camera

|                                   |                                                                                                             |                                                                                                                |                                                                                                                                                                              |                                                                                                                                                                              |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" 5MP CMOS (x4)                                                                                        | 1/2.8" 4CH                                                                                                     | 1/1.8" 5MP CMOS x 4CH                                                                                                                                                        | 1/2.8" CMOS x 4CH                                                                                                                                                            |
| Resolution / Max. Frame Rate      | 15MP / 20fps                                                                                                | 8.3MP / 30fps                                                                                                  | 5MP / 30fps                                                                                                                                                                  | 2MP / 60fps                                                                                                                                                                  |
| Min. Illumination                 | Color: 0.1Lux(F1.6, 1/30sec)<br>BW: 0Lux(IR LED on)                                                         | Color: 0.3Lux(F1.6)<br>Color: 0.03Lux(F1.6)                                                                    | Color: 0.11lux(F1.92, 30IRE)<br>BW: 0Lux(IR LED on)                                                                                                                          | Color: 0.05lux(F1.6, 30IRE)<br>BW: 0Lux(IR LED on)                                                                                                                           |
| Video Out                         | Micro USB Type B                                                                                            | Micro USB Type B                                                                                               | —                                                                                                                                                                            | —                                                                                                                                                                            |
| Focal Length (Zoom Ratio)         | 4.3mm Fixed                                                                                                 | 2.8mm fixed focal                                                                                              | 4.13~9.4mm(2.3x) motorized varifocal                                                                                                                                         | 3.2~10mm(3.1x) motorized varifocal                                                                                                                                           |
| Angular Field of View             | H: 196° / V: 64° (Min distance 5m)<br>H: 197° / V: 64° (Max distance 100m)                                  | H: 209° , V: 83.3°                                                                                             | H: 87.58° (Wide)~37.34° (Tele) / V: 64.58° (Wide)~28.04° (Tele) / D: 112.46° (Wide)~46.85° (Tele)                                                                            | H: 109.0° (Wide)~33.2° (Tele)<br>V: 57.4° (Wide)~18.7° (Tele)<br>D: 132.0° (Wide)~38.0° (Tele)                                                                               |
| Pan / Tilt / Rotate Range         | 0°~360° / 0°~60° / —                                                                                        | 0°~355° / 0°~60° / —                                                                                           | Remote adjustment (Max. 200cycles)<br>0°~360° / 35°~80° / 0°~90°                                                                                                             | Remote adjustment (Max. 200cycles)<br>0°~360° / 35°~80° / 0°~90°                                                                                                             |
| IR Viewable Length                | 20m(65.62ft)                                                                                                | —                                                                                                              | 30m(98.43ft)                                                                                                                                                                 | 30m(98.43ft)                                                                                                                                                                 |
| Day & Night                       | Auto(ICR)                                                                                                   |                                                                                                                |                                                                                                                                                                              |                                                                                                                                                                              |
| Wide Dynamic Range                | 120dB                                                                                                       | extreme WDR(120dB)                                                                                             | 120dB                                                                                                                                                                        | 120dB                                                                                                                                                                        |
| Digital Noise Reduction           | SSNR V                                                                                                      |                                                                                                                |                                                                                                                                                                              |                                                                                                                                                                              |
| Digital Image Stabilization       | —                                                                                                           | —                                                                                                              | Support                                                                                                                                                                      | Support                                                                                                                                                                      |
| Analytics                         | Defocus detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line, Audio detection | Defocus detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line, Audio detection    | Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection | Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection |
| Business Intelligence             | Heatmap                                                                                                     | Heatmap                                                                                                        | —                                                                                                                                                                            | —                                                                                                                                                                            |
| Alarm I/O                         | 2 / 1.                                                                                                      | 1 / 1.                                                                                                         | 1 / 1                                                                                                                                                                        | 1 / 1                                                                                                                                                                        |
| Audio I/O                         | Selectable (mic in/line in)                                                                                 | Selectable (mic in/line in) / Line out                                                                         | Selectable (mic in/line in) / Line out                                                                                                                                       | Selectable (mic in/line in) / Line out                                                                                                                                       |
| Video Compression                 | H.265/H.264, MJPEG                                                                                          | H.265, H.264, MJPEG                                                                                            | H.265/H.264, MJPEG                                                                                                                                                           | H.265/H.264, MJPEG                                                                                                                                                           |
| WiseStream                        | WiseStream II                                                                                               | WiseStream II                                                                                                  | WiseStream II                                                                                                                                                                | WiseStream II                                                                                                                                                                |
| Streaming                         | Up to 3 profiles                                                                                            | Up to 10 profiles                                                                                              | Up to 10 profiles                                                                                                                                                            | Up to 10 profiles                                                                                                                                                            |
| Edge Storage                      | Micro SD/SDHC/SDXC 2 slots 512GB (256GBx2)                                                                  | Micro SD/SDHC/SDXC                                                                                             | Micro SD/SDHC/SDXC 4 slot 256GB(each CH)                                                                                                                                     | Micro SD/SDHC/SDXC 4 slot 256GB(each CH)                                                                                                                                     |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI(HTTP API)                                                                       | ONVIF Profile S/G/T, SUNAPI, Hanwha Vision Open Platform                                                       | ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform                                                                                                              | ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform                                                                                                              |
| Operating Temperature / Humidity  | -40°C~+55°C(-40°F~+131°F)<br>* Startup should be above -30°C<br>Less than 95% RH(Non-condensing)            | -40°C~+60°C(-40°F~+131°F) /<br>Less than 95% RH(Non-condensing)<br>* Maximum temperature: +60°C (intermittent) | -40°C~+55°C(-40°F~+131°F) /<br>Less than 90% RH                                                                                                                              | -40°C~+55°C(-40°F~+131°F) /<br>Less than 90% RH                                                                                                                              |
| Certification                     | IP66, IK10, NEMA4X                                                                                          | IP66, IK10, NEMA4X                                                                                             | IP66, IK10, NEMA4X                                                                                                                                                           | IP66, IK10, NEMA4X                                                                                                                                                           |
| Power Consumption                 | PoE+: Max 23.5W, Typical 18.0W<br>12VDC: Max 20.5W, Typical 16.0W"                                          | PoE+: Max 18W, Typical 10.4W                                                                                   | PoE: Max. 45 W, Typical 33.7 W<br>12VDC: Max. 42 W, Typical 32 W                                                                                                             | PoE: Max. 42 W, Typical 30 W<br>12VDC: Max. 38 W, Typical 28.2 W                                                                                                             |
| Product Dimensions / Weight       | Ø253x170mm / 2.6Kg                                                                                          | Ø253 x 165mm (Ø9.96" x 6.5")<br>3200g                                                                          | Ø315x145.9mm(12.40"x5.74") / 5.2 kg(11.5lb)                                                                                                                                  | Ø315x145.9mm(12.40"x5.74") / 5.2 kg(11.5lb)                                                                                                                                  |
| Additional Features               | —                                                                                                           | 4CH Stitching                                                                                                  | Motorized PTRZ                                                                                                                                                               | Motorized PTRZ                                                                                                                                                               |



**PNM-9084QZ1**  
2MP x 4CH PTRZ Multi-directional Camera



**PNM-8082VT**  
2MP x 3CH Multi-directional Camera



**PNM-12082RVD**  
6MP x 2CH Multi-directional Camera



**PNM-7082RVD**  
2MP x 2CH Multi-directional Camera

|                                   |                                                                                                                                                                              |                                                                                                 |                                                                                                                                                                                                                                     |                                                                                    |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS x 4CH                                                                                                                                                            | 1/2.8" CMOS 3CH                                                                                 | 1/2.8" CMOS x 2CH                                                                                                                                                                                                                   | 1/2.8" CMOS x 2CH                                                                  |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                                                                                                  | 2MP / 30fps                                                                                     | 6MP / 15fps                                                                                                                                                                                                                         | 2MP / 30fps                                                                        |
| Min. Illumination                 | Color: 0.04lux(F2.2, 1/30sec)<br>BW: 0.004lux(F2.2, 1/30sec)                                                                                                                 | Color: 0.04lux(F2.2)<br>BW: 0.004lux(F2.2)                                                      | Color: 0.16lux(F1.67, 1/30sec, 30IRE)<br>BW: 0lux(IR LED on)                                                                                                                                                                        | Color: 0.035lux(F2.2, 1/30sec, 30IRE)<br>BW: 0lux(IR LED on)                       |
| Video Out                         | –                                                                                                                                                                            | CVBS: 1.0 Vp-p                                                                                  | micro USB Type B                                                                                                                                                                                                                    | micro USB Type B                                                                   |
| Focal Length (Zoom Ratio)         | 3~6mm(2x) motorized varifocal                                                                                                                                                | 3~6mm(2x) motorized varifocal                                                                   | 3.54~6.69mm(1.9x) motorized varifocal                                                                                                                                                                                               | 3~6mm(2x) motorized varifocal                                                      |
| Angular Field of View             | H: 107° (Wide)~56.3° (Tele)<br>V: 57° (Wide)~31.5° (Tele)<br>D: 126° (Wide)~64.3° (Tele)                                                                                     | H: 107° (Wide)~56.3° (Tele)<br>V: 57° (Wide)~31.5° (Tele)<br>D: 126° (Wide)~64.3° (Tele)        | H: 96° (Wide)~47° (Tele)<br>V: 51° (Wide)~26° (Tele)<br>D: 113° (Wide)~54° (Tele)                                                                                                                                                   | H: 107° (Wide)~56° (Tele)<br>V: 57° (Wide)~31° (Tele)<br>D: 126° (Wide)~64° (Tele) |
| Pan / Tilt / Rotate Range         | Remote adjustment (Max. 200cycles)<br>0~360° / 0~73° / 0~90°                                                                                                                 | 0~360° / 0~73° / 0~90°                                                                          | 0~355° / 0~78° / 0~180°                                                                                                                                                                                                             | 0~355° / 0~78° / 0~180°                                                            |
| IR Viewable Length                | –                                                                                                                                                                            | –                                                                                               | 25m(82ft)                                                                                                                                                                                                                           | 25m(82ft)                                                                          |
| Day & Night                       | Auto(ICR)                                                                                                                                                                    | Auto(ICR)                                                                                       | Auto(ICR)                                                                                                                                                                                                                           | Auto(ICR)                                                                          |
| Wide Dynamic Range                | 120dB                                                                                                                                                                        | extremeWDR(150dB)                                                                               | extremeWDR(120dB)                                                                                                                                                                                                                   | extremeWDR(150dB)                                                                  |
| Digital Noise Reduction           | SSNR <b>V</b>                                                                                                                                                                | SSNR <b>V</b>                                                                                   | WiseNR, SSNR <b>V</b>                                                                                                                                                                                                               | WiseNR, SSNR <b>V</b>                                                              |
| Digital Image Stabilization       | Support                                                                                                                                                                      | Support                                                                                         | –                                                                                                                                                                                                                                   | –                                                                                  |
| Analytics                         | Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection | Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line | <b>Analytics events*</b><br>– Defocus detection, Motion detection, Tampering, Virtual line(Crossing/Direction), Virtual area(Loitering/Enter/Exit)<br>* Support Audio detection, Sound classification via optional SPM-4210 I/O box |                                                                                    |
| Business Intelligence             | –                                                                                                                                                                            | –                                                                                               | –                                                                                                                                                                                                                                   | –                                                                                  |
| Alarm I/O                         | 1 / 1                                                                                                                                                                        | –                                                                                               | –                                                                                                                                                                                                                                   | –                                                                                  |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                        | –                                                                                               | –                                                                                                                                                                                                                                   | –                                                                                  |
| Video Compression                 | H.265/H.264, MJPEG                                                                                                                                                           | H.265, H.264, MJPEG                                                                             | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                              | H.265/H.264: Main/Baseline/High, MJPEG                                             |
| WiseStream                        | WiseStream <b>II</b>                                                                                                                                                         | WiseStream <b>II</b>                                                                            | WiseStream <b>II</b>                                                                                                                                                                                                                | WiseStream <b>II</b>                                                               |
| Streaming                         | Up to 10 profiles                                                                                                                                                            | Up to 10 profiles                                                                               | Up to 10 profiles                                                                                                                                                                                                                   | Up to 10 profiles                                                                  |
| Edge Storage                      | Micro SD/SDHC/SDXC 4slot 256GB(each CH)                                                                                                                                      | Micro SD/SDHC/SDXC                                                                              | Micro SD/SDHC/SDXC 1slot Max. 512GB                                                                                                                                                                                                 | Micro SD/SDHC/SDXC 1slot Max. 512GB                                                |
| Application Programming Interface | ONVIF Profile S/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                         | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)                                                         | ONVIF Profile S/T<br>SUNAPI(HTTP API)<br>Open platform                                                                                                                                                                              | ONVIF Profile S/T<br>SUNAPI(HTTP API)<br>Open platform                             |
| Operating Temperature / Humidity  | –40°C~+55°C(–40°F~+131°F) / Less than 90% RH<br>*Start up should be above at –35°C                                                                                           |                                                                                                 |                                                                                                                                                                                                                                     |                                                                                    |
| Certification                     | IP66, IK10, NEMA4X                                                                                                                                                           | IP66, IK10, NEMA4X                                                                              | IP66/IP67, NEMA4X, IK10                                                                                                                                                                                                             | IP66/IP67, NEMA4X, IK10                                                            |
| Power Consumption                 | Max. 33W, Typical 20W                                                                                                                                                        | PoE+: Max : 16.5W, Typical : 8.2W                                                               | PoE+: Max 18.3W, typical 13.5W                                                                                                                                                                                                      | PoE+: Max 17W, typical 12.5W                                                       |
| Product Dimensions / Weight       | Ø251x116.5mm / 3Kg                                                                                                                                                           | Ø251 x 116.5mm (Ø9.88" x 4.59")<br>3kg(6.6lb)                                                   | 215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67") / 1330g                                                                                                                                                                                  | 215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67") / 1330g                                 |
| Additional Features               | Motorized PTRZ                                                                                                                                                               | 3CH Multi-directional                                                                           | –                                                                                                                                                                                                                                   | –                                                                                  |



**PNM-9000QB**  
2MP x 4CH Remote Head Camera



**SLA-T4680A/T4680VA**  
2MP lens for PNM-9000QB



**SLA-T2480A/T2480VA**  
2MP lens for PNM-9000QB



**SLA-T1080FA**  
2MP lens for PNM-9000QB

|                                   |                                                                                                    |                                                                           |                                                                           |                       |
|-----------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------|
| Imaging Device                    | —                                                                                                  | 1/2.8" 2MP CMOS                                                           | 1/2.8" 2MP CMOS                                                           | 1/2.8" 2MP CMOS       |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                                                        | —                                                                         | —                                                                         | —                     |
| Min. Illumination                 | —                                                                                                  | Color: 0.06Lux(F2.5)                                                      | Color: 0.045Lux(F2.0)                                                     | Color: 0.03Lux(F1.6)  |
| Video Out                         | HDMI(1920x1080, Quad view support)                                                                 | —                                                                         | —                                                                         | —                     |
| Focal Length (Zoom Ratio)         | —                                                                                                  | 4.6mm fixed focal                                                         | 2.4mm fixed focal                                                         | 1.6mm fixed focal     |
| Angular Field of View             | —                                                                                                  | H: 73° / V: 39° / D: 85°                                                  | H: 138° / V: 73° / D: 165°                                                | H: 187° / V: 113.9°   |
| Pan / Tilt / Rotate Range         | —                                                                                                  | —                                                                         | —                                                                         | —                     |
| IR Viewable Length                | —                                                                                                  | —                                                                         | —                                                                         | —                     |
| Day & Night                       | Auto(electrical)                                                                                   | —                                                                         | —                                                                         | —                     |
| Wide Dynamic Range                | extreme WDR(150dB)                                                                                 | —                                                                         | —                                                                         | —                     |
| Digital Noise Reduction           | SSNRV                                                                                              | —                                                                         | —                                                                         | —                     |
| Digital Image Stabilization       | Support                                                                                            | —                                                                         | —                                                                         | —                     |
| Analytics                         | Defocus detection, Directional detection,<br>Motion detection, Enter/Exit, Tampering, Virtual line | —                                                                         | —                                                                         | —                     |
| Business Intelligence             | —                                                                                                  | —                                                                         | —                                                                         | —                     |
| Alarm I/O                         | 1 / 1.                                                                                             | —                                                                         | —                                                                         | —                     |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                              | —                                                                         | —                                                                         | —                     |
| Video Compression                 | H.265, H.264, MJPEG                                                                                | —                                                                         | —                                                                         | —                     |
| WiseStream                        | WiseStream II                                                                                      | —                                                                         | —                                                                         | —                     |
| Streaming                         | Up to 10 profiles                                                                                  | —                                                                         | —                                                                         | —                     |
| Edge Storage                      | Micro SD/SDHC/SDXC                                                                                 | —                                                                         | —                                                                         | —                     |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                               | —                                                                         | —                                                                         | —                     |
| Operating Temperature / Humidity  | -10°C ~ +45°C (-40°F ~ +113°F) /<br>Less than 95% RH(Non condensing)                               | —                                                                         | —                                                                         | —                     |
| Certification                     | —                                                                                                  | —                                                                         | —                                                                         | —                     |
| Power Consumption                 | PoE : Max 22W, Typical 16.70W<br>DC : Max 19W, Typical: 14W                                        | —                                                                         | —                                                                         | —                     |
| Product Dimensions / Weight       | W 200 x H 37 x D 146mm<br>(7.87" x 1.46" x 5.75")<br>715g (1.58lb)                                 | Ø24 x L49.8mm, 310g (SLA-T4681)<br>W30 x H27.9 x D45mm, 321g (SLA-T4681V) | Ø24 x L49.8mm, 318g (SLA-T2481)<br>W30 x H27.9 x D45mm, 328g (SLA-T2481V) | Ø35 x L68.9mm<br>430g |
| Additional Features               | Optional pinhole/fixed lens                                                                        | —                                                                         | —                                                                         | —                     |



**QNO-8080R**  
5MP IR Bullet Camera



**QNO-8020R**  
5MP IR Bullet Camera



**QNO-8010R**  
5MP IR Bullet Camera



**QND-8080R**  
5MP IR Dome Camera



**QND-8020R**  
5MP IR Dome Camera

|                                   |                                                                                                          |                                                                    |                                                                    |                                                                                                          |                                                             |
|-----------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                              | 1/2.8" CMOS                                                        | 1/2.8" CMOS                                                        | 1/2.8" CMOS                                                                                              | 1/2.8" CMOS                                                 |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                                                              | 5MP / 30fps                                                        | 5MP / 30fps                                                        | 5MP / 30fps                                                                                              | 5MP / 30fps                                                 |
| Min. Illumination                 | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                           | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)                     | Color: 0.15Lux (F2.0)<br>B/W: 0Lux (IR LED on)                     | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                           | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)              |
| Video Out                         | CVBS 1.0 Vp-p                                                                                            | CVBS 1.0 Vp-p                                                      | CVBS 1.0 Vp-p                                                      | CVBS 1.0 Vp-p                                                                                            | CVBS 1.0 Vp-p                                               |
| Focal Length (Zoom Ratio)         | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                                 | 4.0mm fixed                                                        | 2.8mm fixed                                                        | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                                 | 4.0mm fixed                                                 |
| Angular Field of View             | H: 100.3° (Wide) ~ 31.2° (Tele) /<br>V: 72.3° (Wide) ~ 23.5° (Tele) /<br>D: 133.1° (Wide) ~ 38.8° (Tele) | H: 79.8° / V: 58.1° / D: 105.9°                                    | H: 104.7° / V: 76.5° / D: 136.0°                                   | H: 100.3° (Wide) ~ 31.2° (Tele) /<br>V: 72.3° (Wide) ~ 23.5° (Tele) /<br>D: 133.1° (Wide) ~ 38.8° (Tele) | H: 79.8° / V: 58.1° / D: 105.9°                             |
| Pan / Tilt / Rotate Range         | –                                                                                                        | –                                                                  | –                                                                  | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                            |
| IR Viewable Length                | 30m (98.43ft)                                                                                            | 25m (82.02ft)                                                      | 20m (65.62ft)                                                      | 20m (65.62ft)                                                                                            | 20m (65.62ft)                                               |
| Day & Night                       | Auto (ICR)                                                                                               | Auto (ICR)                                                         | Auto (ICR)                                                         | Auto (ICR)                                                                                               | Auto (ICR)                                                  |
| Wide Dynamic Range                | 120dB                                                                                                    | 120dB                                                              | 120dB                                                              | 120dB                                                                                                    | 120dB                                                       |
| Digital Noise Reduction           | SSNR                                                                                                     | SSNR                                                               | SSNR                                                               | SSNR                                                                                                     | SSNR                                                        |
| Digital Image Stabilization       | –                                                                                                        | –                                                                  | –                                                                  | –                                                                                                        | –                                                           |
| Analytics                         | Intelligent analytics                                                                                    | Intelligent analytics                                              | Intelligent analytics                                              | Intelligent analytics                                                                                    | Intelligent analytics                                       |
| Business Intelligence             | –                                                                                                        | –                                                                  | –                                                                  | –                                                                                                        | –                                                           |
| Alarm I/O                         | 1/1                                                                                                      |                                                                    |                                                                    |                                                                                                          |                                                             |
| Audio I/O                         | –                                                                                                        | –                                                                  | –                                                                  | –                                                                                                        | –                                                           |
| Video Compression                 | H.265, H.264, MJPEG                                                                                      | H.265, H.264, MJPEG                                                | H.265, H.264, MJPEG                                                | H.265, H.264, MJPEG                                                                                      | H.265, H.264, MJPEG                                         |
| WiseStream                        | WiseStream II                                                                                            | WiseStream II                                                      | WiseStream II                                                      | WiseStream II                                                                                            | WiseStream II                                               |
| Streaming                         | Up to 3 Profiles                                                                                         | Up to 3 Profiles                                                   | Up to 3 Profiles                                                   | Up to 3 Profiles                                                                                         | Up to 3 Profiles                                            |
| Edge Storage                      | Micro SD/SDHC/SDXC                                                                                       | Micro SD/SDHC/SDXC                                                 | Micro SD/SDHC/SDXC                                                 | Micro SD/SDHC/SDXC                                                                                       | Micro SD/SDHC/SDXC                                          |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                              | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform        | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform        | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                              | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform |
| Operating Temperature / Humidity  | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –20°C (–4°F)                                       | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –20°C (–4°F) | –30°C ~ +55°C<br>(–22°F ~ +131°F)<br>* Start up above –20°C (–4°F) | –10°C ~ +50°C<br>(+14°F ~ +122°F)                                                                        | –10°C ~ +50°C<br>(+14°F ~ +122°F)                           |
| Certification                     | IP66, IK10                                                                                               | IP66, IK10                                                         | IP66, IK10                                                         | –                                                                                                        | –                                                           |
| Power Consumption                 | PoE: Max 9.5W, typical 7.3W                                                                              | PoE: Max 7.5W, typical 6.1W                                        | PoE: Max 7.5W, typical 6.1W                                        | PoE: Max 8.9W, typical 6.6W                                                                              | PoE: Max 6.8W, typical 5.0W                                 |
| Dimensions (WxHxD) / Weight       | Ø91 x 322.9mm<br>(Ø3.58" x 12.71")<br>1190g (2.624lb)                                                    | Ø70.0 x 246.0mm<br>(Ø2.76" x 9.69")<br>680g (1.499lb)              | Ø70.0 x 246.0mm<br>(Ø2.76" x 9.69")<br>680g (1.499lb)              | Ø120.3 x 102.0mm<br>(Ø4.74" x 4.02")<br>430g (0.948lb)                                                   | Ø110.6 x 89.5mm<br>(Ø4.35" x 3.52")<br>360g (0.794lb)       |
| Additional Features               | Hallway View                                                                                             | Hallway View                                                       | Hallway View                                                       | Hallway View                                                                                             | Hallway View                                                |



**QND-8010R**  
5MP IR Dome Camera



**QND-8012**  
5MP/4MP Dome Camera



**QND-8021**  
5MP Dome Camera



**QND-8022**  
5MP/4MP Dome Camera



**QND-8011**  
5MP Dome Camera

|                                   |                                                             |                                                                                |                                                             |                                                                                |                                                             |
|-----------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                 |                                                                                |                                                             |                                                                                |                                                             |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                 | 5MP / 4MP / 30fps                                                              | 5MP / 30fps                                                 | 5MP / 4MP / 30fps                                                              | 5MP / 30fps                                                 |
| Min. Illumination                 | Color : 0.15Lux (F2.0)<br>B/W : 0Lux (IR LED on)            | Color : 0.15Lux (F2.0, 1/30sec, 30IRE)<br>B/W : 0.15Lux (F2.0, 1/30sec, 30IRE) | Color : 0.15Lux (F1.6)                                      | Color : 0.15Lux (F1.6, 1/30sec, 30IRE)<br>B/W : 0.15Lux (F1.6, 1/30sec, 30IRE) | Color : 0.15Lux (F2.0)                                      |
| Video Out                         | CVBS 1.0 Vp-p                                               | Micro HDMI: 1080p@30/25fps(60/50Hz)                                            | Micro HDMI                                                  | Micro HDMI: 1080p@30/25fps(60/50Hz)                                            | Micro HDMI                                                  |
| Focal Length (Zoom Ratio)         | 2.8mm fixed                                                 | 2.8mm fixed focal                                                              | 4mm fixed                                                   | 4.0mm fixed focal                                                              | 2.8mm fixed                                                 |
| Angular Field of View             | H : 104.7° / V : 76.5° / D : 136°                           | H : 105° / V : 77° / D : 137°                                                  | H : 80.1° / V : 58° / D : 105.8°                            | H : 81° / V : 58° / D : 106°                                                   | H : 104.4° / V : 76.7° / D : 136.1°                         |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                            | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                                               | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                            | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                                               | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                            |
| IR Viewable Length                | 20m (65.62ft)                                               | —                                                                              | —                                                           | —                                                                              | —                                                           |
| Day & Night                       | Auto (ICR)                                                  | Auto (Electrical)                                                              | Auto (Electrical)                                           | Auto (Electrical)                                                              | Auto (Electrical)                                           |
| Wide Dynamic Range                | 120dB                                                       |                                                                                |                                                             |                                                                                |                                                             |
| Digital Noise Reduction           | SSNR                                                        |                                                                                |                                                             |                                                                                |                                                             |
| Digital Image Stabilization       | —                                                           |                                                                                |                                                             |                                                                                |                                                             |
| Analytics                         | Intelligent analytics                                       | Defocus detection, Motion detection,<br>Tampering                              | Intelligent analytics                                       | Defocus detection, Motion detection,<br>Tampering                              | Intelligent analytics                                       |
| Business Intelligence             | —                                                           | People counting                                                                | People counting                                             | People counting                                                                | People counting                                             |
| Alarm I/O                         | 1 / 1                                                       | —                                                                              | —                                                           | —                                                                              | —                                                           |
| Audio I/O                         | —                                                           |                                                                                |                                                             |                                                                                |                                                             |
| Video Compression                 | H.265 / H.264, MJPEG                                        |                                                                                |                                                             |                                                                                |                                                             |
| WiseStream                        | WiseStream II                                               |                                                                                |                                                             |                                                                                |                                                             |
| Streaming                         | Up to 3 Profiles                                            |                                                                                |                                                             |                                                                                |                                                             |
| Edge Storage                      | micro SD/SDHC/SDXC                                          | Micro SD/SDHC/SDXC 1 slot 128GB                                                | micro SD/SDHC/SDXC                                          | Micro SD/SDHC/SDXC 1 slot 128GB                                                | micro SD/SDHC/SDXC                                          |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform           | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform           | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform |
| Operating Temperature / Humidity  | -10°C ~ +50°C<br>(+14°F ~ +122°F)                           | -10°C ~ +40°C (+14°F ~ +104°F)<br>0~90% RH(non-condensing)                     | -10°C ~ +40°C<br>(+14°F ~ +104°F)                           | -10°C ~ +40°C (+14°F ~ +104°F)<br>0~90% RH(non-condensing)                     | -10°C ~ +40°C<br>(+14°F ~ +104°F)                           |
| Certification                     | —                                                           | IP42, IK08                                                                     | IP42, IK08                                                  | IP42, IK08                                                                     | IP42, IK08                                                  |
| Power Consumption                 | PoE : Max 7.5W, typical 5.8W                                | PoE : Max 5.00W, typical 4.00W                                                 | PoE : Max 5W, typical 4W                                    | PoE : Max 5.00W, typical 4.00W                                                 | PoE : Max 5W, typical 4W                                    |
| Product Dimensions / Weight       | Ø110.6 x 89.5mm (Ø4.35" x 3.52")<br>360g (0.794lb)          | Ø99.0 x 56.0mm (Ø3.9 x 2.2"), 165g (0.36 lb)                                   | Ø99 x 56mm (Ø3.9" x 2.2")<br>165g (0.364lb)                 | Ø99.0 x 56.0mm (Ø3.9 x 2.2"), 165g (0.36 lb)                                   | Ø99 x 56mm (Ø3.9" x 2.2")<br>165g (0.364lb)                 |
| Additional Features               | Hallway View                                                | Hallway View                                                                   | Super compact design, Hallway View                          | Hallway View                                                                   | Super compact design, Hallway View                          |



**QNV-8080R**  
5MP IR Vandal Dome Camera



**QNV-8020R**  
5MP IR Vandal Dome Camera



**QNV-8010R**  
5MP IR Vandal Dome Camera



**QNE-8011R**  
5MP IR Flateye Camera

|                                   |                                                                                                      |                                                                    |                                                                    |                                                                    |
|-----------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                          |                                                                    |                                                                    |                                                                    |
| Resolution / Max. Frame Rate      | 5MP / 30fps                                                                                          |                                                                    |                                                                    |                                                                    |
| Min. Illumination                 | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                       | Color: 0.15Lux (F1.6)<br>B/W: 0Lux (IR LED on)                     | Color: 0.15Lux (F2.0)<br>B/W: 0Lux (IR LED on)                     | Color: 0.15Lux (F2.0)<br>B/W: 0Lux (IR LED on)                     |
| Video Out                         | CVBS 1.0 Vp-p                                                                                        |                                                                    |                                                                    |                                                                    |
| Focal Length (Zoom Ratio)         | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                             | 4.0mm fixed                                                        | 2.8mm fixed                                                        | 2.8mm fixed                                                        |
| Angular Field of View             | H: 100.3° (Wide) ~ 31.2° (Tele)<br>V: 72.3° (Wide) ~ 23.5° (Tele)<br>D: 133.1° (Wide) ~ 38.8° (Tele) | H: 79.8° / V: 58.1° / D: 105.9°                                    | H: 104.7° / V: 76.5° / D: 136°                                     | H: 104.4°<br>V: 76.7°<br>D: 136.1°                                 |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                     | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                   | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                   | 0° ~ 350° / 0° ~ 75° / 0° ~ 360°                                   |
| IR Viewable Length                | 30m (98.42ft)                                                                                        | 25m (82.02ft)                                                      | 20m (65.62ft)                                                      | 20m (65.62ft)                                                      |
| Day & Night                       | Auto (ICR)                                                                                           |                                                                    |                                                                    |                                                                    |
| Wide Dynamic Range                | 120dB                                                                                                |                                                                    |                                                                    |                                                                    |
| Digital Noise Reduction           | SSNR                                                                                                 |                                                                    |                                                                    |                                                                    |
| Digital Image Stabilization       | -                                                                                                    |                                                                    |                                                                    |                                                                    |
| Analytics                         | Intelligent analytics                                                                                |                                                                    |                                                                    |                                                                    |
| Business Intelligence             | -                                                                                                    |                                                                    |                                                                    |                                                                    |
| Alarm I/O                         | 1 / 1                                                                                                | 1 / 1                                                              | 1 / 1                                                              | -                                                                  |
| Audio I/O                         | -                                                                                                    | -                                                                  | -                                                                  | -                                                                  |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                 |                                                                    |                                                                    |                                                                    |
| WiseStream                        | WiseStream II                                                                                        |                                                                    |                                                                    |                                                                    |
| Streaming                         | Up to 3 Profiles                                                                                     |                                                                    |                                                                    |                                                                    |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                   |                                                                    |                                                                    |                                                                    |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                          |                                                                    |                                                                    |                                                                    |
| Operating Temperature / Humidity  | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                                   | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) |
| Certification                     | IP66, IK10                                                                                           | IP66, IK10                                                         | IP66, IK10                                                         | IP67, IK10                                                         |
| Power Consumption                 | PoE: Max 8.9W, typical 6.6W                                                                          | PoE: Max 7.2W, typical 5.4W                                        | PoE: Max 7.5W, typical 5.8W                                        | PoE: Max 7.4W, typical 5.5W                                        |
| Product Dimensions / Weight       | Ø 137 x 106.1mm (Ø 5.39" x 4.18")<br>700g (1.543lb)                                                  | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61")<br>510g (1.124lb)               | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61")<br>510g (1.124lb)               | Ø 125 x 87.35mm<br>(Ø 4.92" x 3.44")<br>645g (1.422lb)             |
| Additional Features               | Hallway View                                                                                         |                                                                    |                                                                    |                                                                    |





**QNO-7082R**  
4MP IR Bullet Camera



**QNO-7032R**  
4MP IR Bullet Camera



**QNO-7022R**  
4MP IR Bullet Camera



**QNO-7012R**  
4MP IR Bullet Camera

|                                   |                                                                                                                              |                                                             |                                                                                                                              |                                                                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/3" CMOS                                                                                                                    |                                                             |                                                                                                                              |                                                                                                                              |
| Resolution / Max. Frame Rate      | 4MP / 30fps                                                                                                                  |                                                             |                                                                                                                              |                                                                                                                              |
| Min. Illumination                 | Color : 0.1Lux (F1.6, 1/30sec)<br>B/W : 0Lux (IR LED On)                                                                     | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)   | Color : 0.15Lux (F1.6, 1/30sec)<br>B/W : 0Lux (IR LED On)                                                                    | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)                                                                    |
| Video Out                         | CVBS 1.0 Vp-p                                                                                                                | CVBS 1.0 Vp-p                                               | CVBS 1.0 Vp-p                                                                                                                | CVBS 1.0 Vp-p                                                                                                                |
| Focal Length (Zoom Ratio)         | 3.2~10mm (3.1x) motorized varifocal                                                                                          | 6mm fixed focal                                             | 4mm fixed focal                                                                                                              | 2.8mm fixed focal                                                                                                            |
| Angular Field of View             | H : 98.6° (Wide) ~ 30.8° (Tele)<br>V : 52.3° (Wide) ~ 17.3° (Tele)<br>D : 115.7° (Wide) ~ 35.3° (Tele)                       | H : 49.0° / V : 27.6° / D : 55.6°                           | H : 78.2° / V : 41.2° / D : 92°                                                                                              | H : 107.5° / V : 59.7° / D : 122°                                                                                            |
| Pan / Tilt / Rotate Range         | -                                                                                                                            | -                                                           | -                                                                                                                            | -                                                                                                                            |
| IR Viewable Length                | 30m (98.42ft)                                                                                                                | 30m (98.42ft)                                               | 25m (82.02ft)                                                                                                                | 20m (65.62ft)                                                                                                                |
| Day & Night                       | Auto (ICR)                                                                                                                   |                                                             |                                                                                                                              |                                                                                                                              |
| Wide Dynamic Range                | 120dB                                                                                                                        |                                                             |                                                                                                                              |                                                                                                                              |
| Digital Noise Reduction           | SSNR                                                                                                                         |                                                             |                                                                                                                              |                                                                                                                              |
| Digital Image Stabilization       | -                                                                                                                            | -                                                           | -                                                                                                                            | -                                                                                                                            |
| Analytics                         | Motion detection, Tampering, Defocus detection,<br>Virtual area (Intrusion/Enter/Exit),<br>Virtual line (Crossing/Direction) | Intelligent analytics                                       | Motion detection, Tampering, Defocus detection,<br>Virtual area (Intrusion/Enter/Exit),<br>Virtual line (Crossing/Direction) | Motion detection, Tampering, Defocus detection,<br>Virtual area (Intrusion/Enter/Exit),<br>Virtual line (Crossing/Direction) |
| Business Intelligence             | -                                                                                                                            | -                                                           | -                                                                                                                            | -                                                                                                                            |
| Alarm I/O                         | 1/1                                                                                                                          | 1/1                                                         | 1/1                                                                                                                          | 1/1                                                                                                                          |
| Audio I/O                         | Line in / -                                                                                                                  | Selectable (mic in/line in) / -                             | Selectable (mic in/line in) / -                                                                                              | Selectable (mic in/line in) / -                                                                                              |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                                         | H.265, H.264, MJPEG                                         | H.265, H.264, MJPEG                                                                                                          | H.265, H.264, MJPEG                                                                                                          |
| WiseStream                        | WiseStream II                                                                                                                |                                                             |                                                                                                                              |                                                                                                                              |
| Streaming                         | Up to 3 Profiles                                                                                                             |                                                             |                                                                                                                              |                                                                                                                              |
| Edge Storage                      | micro SD/SDHC/SDXC 1 slot 128GB                                                                                              |                                                             |                                                                                                                              |                                                                                                                              |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                                                       | ONVIF Profile S/G/T, SUNAPI (HTTP API)                      | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                                                       | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                                                       |
| Operating Temperature / Humidity  | -40°C ~ +55°C (-40°F ~ +131°F) /<br>0~95% RH<br>* Start up should be done at -30°C or above                                  |                                                             |                                                                                                                              |                                                                                                                              |
| Certification                     | IP66, IK10                                                                                                                   | IP66, IK10                                                  | IP66, IK10                                                                                                                   | IP66, IK10                                                                                                                   |
| Power Consumption                 | PoE: Max 11.4W, typical 8W<br>12VDC: Max 9.6W, typical 7W                                                                    | PoE: Max 10.7W, typical 8W<br>12VDC: Max 9.1W, typical 6.8W | PoE: Max 10.7W, typical 8W<br>12VDC: Max 9.1W, typical 6.8W                                                                  | PoE: Max 10.7W, typical 8W<br>12VDC: Max 9.1W, typical 6.8W                                                                  |
| Product Dimensions / Weight       | Ø78.0 x 259.8mm (Ø3.07 x 10.23"),<br>900g (1.984 lb)                                                                         | Ø70.0 x 246.0mm (Ø2.76 x 9.69"),<br>700g (1.543 lb)         | PoE: Max 10.7W, typical 8W<br>12VDC: Max 9.1W, typical 6.8W                                                                  | PoE: Max 10.7W, typical 8W<br>12VDC: Max 9.1W, typical 6.8W                                                                  |
| Additional Features               | Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line                              |                                                             |                                                                                                                              |                                                                                                                              |



**QNO-6082R/6082R1**  
2MP IR Bullet Camera



**QNO-6072R/6072R1**  
2MP IR Bullet Camera



**QNO-6022R/6022R1**  
2MP IR Bullet Camera



**QNO-6012R/6012R1**  
2MP IR Bullet Camera

|                                   |                                                                                                   |   |                                                                                                   |   |                                                              |   |                                                              |   |
|-----------------------------------|---------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------|---|--------------------------------------------------------------|---|
| Imaging Device                    | 1/2.8" CMOS                                                                                       |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                                                       |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Min. Illumination                 | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                  |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Video Out                         | CVBS 1.0 Vp-p                                                                                     |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Focal Length (Zoom Ratio)         | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                          |   | 3.2 ~ 10mm (3.1x)<br>manual varifocal                                                             |   | 4mm fixed                                                    |   | 2.8mm fixed                                                  |   |
| Angular Field of View             | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) |   | H : 109° (Wide) ~ 33.2° (Tele)<br>V : 57.4° (Wide) ~ 18.7° (Tele)<br>D : 132° (Wide) ~ 38° (Tele) |   | H : 87.6° / V : 46.4° / D : 104.5°                           |   | H : 113.74° / V : 61.5° / D : 134.45°                        |   |
| Pan / Tilt / Rotate Range         | -                                                                                                 |   |                                                                                                   |   |                                                              |   |                                                              |   |
| IR Viewable Length                | 30m (98.43ft)                                                                                     |   | 30m (98.43ft)                                                                                     |   | 25m (82.02ft)                                                |   | 20m (65.62ft)                                                |   |
| Day & Night                       | Auto (ICR)                                                                                        |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Wide Dynamic Range                | 120dB                                                                                             |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Digital Noise Reduction           | SSNR                                                                                              |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Digital Image Stabilization       | -                                                                                                 |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Analytics                         | Intelligent analytics                                                                             |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Business Intelligence             | -                                                                                                 |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Alarm I/O                         | 1 / 1                                                                                             |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Audio I/O                         | Selectable<br>(mic in/line in)                                                                    | - | Selectable<br>(mic in/line in)                                                                    | - | Selectable<br>(mic in/line in)                               | - | Selectable<br>(mic in/line in)                               | - |
| Video Compression                 | H.265 / H.264, MJPEG                                                                              |   |                                                                                                   |   |                                                              |   |                                                              |   |
| WiseStream                        | WiseStream II                                                                                     |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Streaming                         | Up to 3 Profiles                                                                                  |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                                |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Wisenet open platform                                             |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Operating Temperature / Humidity  | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                                |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Certification                     | IP66, IK10                                                                                        |   |                                                                                                   |   |                                                              |   |                                                              |   |
| Power Consumption                 | PoE : Max 7.4W, typical 5.4W<br>12VDC : Max 6.5W, typical 4.8W                                    |   | PoE : Max 7.4W, typical 5.4W<br>12VDC : Max 6.5W, typical 4.8W                                    |   | PoE : Max 7W, typical 5.2W<br>12VDC : Max 6.1W, typical 4.5W |   | PoE : Max 7W, typical 5.2W<br>12VDC : Max 6.1W, typical 4.5W |   |
| Product Dimensions / Weight       | Ø78 x 259.8mm (Ø3.07" x 10.23")<br>900g (1.984lb)                                                 |   | Ø70 x 246mm (Ø2.76" x 9.69")<br>730g (1.609lb)                                                    |   | Ø70 x 246mm (Ø2.76" x 9.69")<br>700g (1.543lb)               |   | Ø70 x 246mm (Ø2.76" x 9.69")<br>700g (1.543lb)               |   |
| Additional Features               | Hallway View                                                                                      |   |                                                                                                   |   |                                                              |   |                                                              |   |



**QND-7082R**  
4MP IR Dome Camera



**QND-7032R**  
4MP IR Dome Camera



**QND-7022R**  
4MP IR Dome Camera



**QND-7012R**  
4MP IR Dome Camera

|                                   |                                                                                                        |                                                              |                                                              |                                                              |
|-----------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| Imaging Device                    | 1/3" CMOS                                                                                              |                                                              |                                                              |                                                              |
| Resolution / Max. Frame Rate      | 4MP / 30fps                                                                                            |                                                              |                                                              |                                                              |
| Min. Illumination                 | Color : 0.1Lux (F1.6, 1/30sec)<br>B/W : 0Lux (IR LED On)                                               | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)    | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)    | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)    |
| Video Out                         | CVBS 1.0 Vp-p                                                                                          |                                                              |                                                              |                                                              |
| Focal Length (Zoom Ratio)         | 3.2~10mm (3.1x) motorized varifocal                                                                    | 6mm fixed focal                                              | 4mm fixed focal                                              | 2.8mm fixed focal                                            |
| Angular Field of View             | H : 98.6° (Wide) ~ 30.8° (Tele)<br>V : 52.3° (Wide) ~ 17.3° (Tele)<br>D : 115.7° (Wide) ~ 35.3° (Tele) | H : 49.0° / V : 27.6° / D : 55.6°                            | H : 78.2° / V : 41.2° / D : 92°                              | H : 107.5° / V : 59.7° / D : 122°                            |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                       |                                                              |                                                              |                                                              |
| IR Viewable Length                | 20m (65.62ft)                                                                                          |                                                              |                                                              |                                                              |
| Day & Night                       | Auto (ICR)                                                                                             |                                                              |                                                              |                                                              |
| Wide Dynamic Range                | 120dB                                                                                                  |                                                              |                                                              |                                                              |
| Digital Noise Reduction           | SSNR                                                                                                   |                                                              |                                                              |                                                              |
| Digital Image Stabilization       | -                                                                                                      |                                                              |                                                              |                                                              |
| Analytics                         | Intelligent analytics                                                                                  |                                                              |                                                              |                                                              |
| Business Intelligence             | -                                                                                                      |                                                              |                                                              |                                                              |
| Alarm I/O                         | 1/1                                                                                                    |                                                              |                                                              |                                                              |
| Audio I/O                         | Built-in mic / -                                                                                       |                                                              |                                                              |                                                              |
| Video Compression                 | H.265 / H.264, MJPEG                                                                                   |                                                              |                                                              |                                                              |
| WiseStream                        | WiseStream II                                                                                          |                                                              |                                                              |                                                              |
| Streaming                         | Up to 3 Profiles                                                                                       |                                                              |                                                              |                                                              |
| Edge Storage                      | micro SD/SDHC/SDXC 1slot 128GB                                                                         |                                                              |                                                              |                                                              |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                                 |                                                              |                                                              |                                                              |
| Operating Temperature / Humidity  | -10°C ~ +55°C (+14°F ~ +131°F) /<br>0~95% RH                                                           |                                                              |                                                              |                                                              |
| Certification                     | -                                                                                                      |                                                              |                                                              |                                                              |
| Power Consumption                 | PoE: Max 8.6W, typical 6.3W<br>12VDC: Max 7.6W, typical 5.4W                                           | PoE: Max 7.9W, typical 6.1W<br>12VDC: Max 7.1W, typical 5.1W | PoE: Max 7.9W, typical 6.1W<br>12VDC: Max 7.1W, typical 5.1W | PoE: Max 7.9W, typical 6.1W<br>12VDC: Max 7.1W, typical 5.1W |
| Product Dimensions / Weight       | Ø 119.8 x 98.8mm (Ø 4.72" x 3.89")<br>320g (0.705 lb)                                                  | Ø 110.0 x 86.0mm (Ø 4.33 x 3.39"),<br>255g (0.562 lb)        | Ø 110 x 86mm (Ø 4.33" x 3.39")<br>255g (0.562 lb)            | Ø 110 x 86mm (Ø 4.33" x 3.39")<br>255g (0.562 lb)            |
| Additional Features               | Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line        |                                                              |                                                              |                                                              |



**QND-6082R/6082R1**  
2MP IR Dome Camera



**QND-6072R/6072R1**  
2MP IR Dome Camera



**QND-6022R/6022R1**  
2MP IR Dome Camera



**QND-6012R/6012R1**  
2MP IR Dome Camera

|                                   |                                                                                                |   |                                                                                                |   |                                                              |   |                                                              |   |
|-----------------------------------|------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------|---|--------------------------------------------------------------|---|--------------------------------------------------------------|---|
| Imaging Device                    | 1/2.8" CMOS                                                                                    |   |                                                                                                |   |                                                              |   |                                                              |   |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                                                    |   |                                                                                                |   |                                                              |   |                                                              |   |
| Min. Illumination                 | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                               |   | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                               |   | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)             |   | Color : 0.03Lux (F2.0)<br>B/W : 0Lux (IR LED on)             |   |
| Video Out                         | CVBS 1.0Vp-p                                                                                   |   |                                                                                                |   |                                                              |   |                                                              |   |
| Focal Length (Zoom Ratio)         | 3.2~10mm (3.1x)<br>motorized varifocal                                                         |   | 3.2~10mm (3.1x)<br>manual varifocal                                                            |   | 4mm fixed                                                    |   | 2.8mm fixed                                                  |   |
| Angular Field of View             | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele) |   | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele) |   | H: 87.6° / V: 46.4° / D: 104.5°                              |   | H: 113.74° / V: 61.5° / D: 134.45°                           |   |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                               |   |                                                                                                |   |                                                              |   |                                                              |   |
| IR Viewable Length                | 20m (65.62ft)                                                                                  |   |                                                                                                |   |                                                              |   |                                                              |   |
| Day & Night                       | Auto (ICR)                                                                                     |   |                                                                                                |   |                                                              |   |                                                              |   |
| Wide Dynamic Range                | 120dB                                                                                          |   |                                                                                                |   |                                                              |   |                                                              |   |
| Digital Noise Reduction           | SSNR                                                                                           |   |                                                                                                |   |                                                              |   |                                                              |   |
| Digital Image Stabilization       | -                                                                                              |   |                                                                                                |   |                                                              |   |                                                              |   |
| Analytics                         | Intelligent analytics                                                                          |   |                                                                                                |   |                                                              |   |                                                              |   |
| Business Intelligence             | -                                                                                              |   |                                                                                                |   |                                                              |   |                                                              |   |
| Alarm I/O                         | 1 / 1                                                                                          |   |                                                                                                |   |                                                              |   |                                                              |   |
| Audio I/O                         | Built-in mic                                                                                   | - | Built-in mic                                                                                   | - | Built-in mic                                                 | - | Built-in mic                                                 | - |
| Video Compression                 | H.265 / H.264, MJPEG                                                                           |   |                                                                                                |   |                                                              |   |                                                              |   |
| WiseStream                        | WiseStream II                                                                                  |   |                                                                                                |   |                                                              |   |                                                              |   |
| Streaming                         | Up to 3 Profiles                                                                               |   |                                                                                                |   |                                                              |   |                                                              |   |
| Edge Storage                      | micro SD/SDHC/SDXC                                                                             |   |                                                                                                |   |                                                              |   |                                                              |   |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform                                       |   |                                                                                                |   |                                                              |   |                                                              |   |
| Operating Temperature / Humidity  | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                              |   |                                                                                                |   |                                                              |   |                                                              |   |
| Certification                     | -                                                                                              |   |                                                                                                |   |                                                              |   |                                                              |   |
| Power Consumption                 | PoE : Max 7.7W, typical 6W<br>12VDC : Max 6.5W, typical 5.1W                                   |   | PoE : Max 7.7W, typical 6W<br>12VDC : Max 6.5W, typical 5.1W                                   |   | PoE : Max 7.4W, typical 6W<br>12VDC : Max 6.4W, typical 5.1W |   | PoE : Max 7.4W, typical 6W<br>12VDC : Max 6.4W, typical 5.1W |   |
| Product Dimensions / Weight       | Ø 119.8 x 98.8mm (Ø 4.72" x 3.89")<br>320g (0.705lb)                                           |   | Ø 119.8 x 98.8mm (Ø 4.72" x 3.89")<br>320g (0.705lb)                                           |   | Ø 110 x 86mm (Ø 4.33" x 3.39")<br>255g (0.562lb)             |   | Ø 110 x 86mm (Ø 4.33" x 3.39")<br>255g (0.562lb)             |   |
| Additional Features               | Hallway View                                                                                   |   |                                                                                                |   |                                                              |   |                                                              |   |

Q mini


**QND-6021**  
**2MP Dome Camera**

Q mini


**QND-6011**  
**2MP Dome Camera**

**QNV-7082R**  
**4MP IR Vandal Dome Camera**

|                                   |                                                             |                                                             |                                                                                                        |
|-----------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                 | 1/2.8" CMOS                                                 | 1/3" CMOS                                                                                              |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                 | 2MP / 30fps                                                 | 4MP / 30fps                                                                                            |
| Min. Illumination                 | Color : 0.03Lux (F1.6)                                      | Color : 0.03Lux (F2.0)                                      | Color : 0.1Lux (F1.6, 1/30sec)<br>B/W : 0Lux (IR LED On)                                               |
| Video Out                         | –                                                           | –                                                           | CVBS 1.0 Vp-p                                                                                          |
| Focal Length (Zoom Ratio)         | 4mm fixed                                                   | 2.8mm fixed                                                 | 3.2~10mm (3.1x) motorized varifocal                                                                    |
| Angular Field of View             | H : 87.6° / V : 46.4° / D : 104.5°                          | H : 113.74° / V : 61.5° / D : 134.45°                       | H : 98.6° (Wide) ~ 30.8° (Tele)<br>V : 52.3° (Wide) ~ 17.3° (Tele)<br>D : 115.7° (Wide) ~ 35.3° (Tele) |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                            | 0° ~ 350° / 0° ~ 69° / 0° ~ 355°                            | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                       |
| IR Viewable Length                | –                                                           | –                                                           | 30m (98.42ft)                                                                                          |
| Day & Night                       | Auto (Electrical)                                           | Auto (Electrical)                                           | Auto (ICR)                                                                                             |
| Wide Dynamic Range                | 120dB                                                       |                                                             |                                                                                                        |
| Digital Noise Reduction           | SSNR                                                        |                                                             |                                                                                                        |
| Digital Image Stabilization       | –                                                           |                                                             |                                                                                                        |
| Analytics                         | Intelligent analytics                                       | Intelligent analytics                                       | Intelligent analytics                                                                                  |
| Business Intelligence             | People counting                                             | People counting                                             | –                                                                                                      |
| Alarm I/O                         | –                                                           | –                                                           | 1 / 1                                                                                                  |
| Audio I/O                         | –                                                           | –                                                           | Line in / –                                                                                            |
| Video Compression                 | H.265 / H.264, MJPEG                                        |                                                             |                                                                                                        |
| WiseStream                        | WiseStream II                                               |                                                             |                                                                                                        |
| Streaming                         | Up to 3 Profiles                                            |                                                             |                                                                                                        |
| Edge Storage                      | micro SD/SDHC/SDXC                                          | micro SD/SDHC/SDXC                                          | micro SD/SDHC/SDXC 1slot 128GB                                                                         |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF Profile S/G/T,<br>SUNAPI (HTTP API)                                                              |
| Operating Temperature / Humidity  | –10°C ~ +55°C<br>(+14°F ~ +131°F)                           | –10°C ~ +55°C<br>(+14°F ~ +131°F)                           | –40°C ~ +55°C (–40°F ~ +131°F) / 0~95% RH<br>* Start up should be done at –30°C or above               |
| Certification                     | IP42, IK08                                                  | IP42, IK08                                                  | IP66, IK10                                                                                             |
| Power Consumption                 | PoE : Max 4.8W, typical 2.8W                                | PoE : Max 4.8W, typical 2.8W                                | PoE : Max 11.4W, typical 8.5W<br>12VDC : Max 9.6W, typical 7.2W                                        |
| Product Dimensions / Weight       | Ø99 x 56mm (Ø3.9" x 2.2")<br>145g (0.320lb)                 | Ø99 x 56mm (Ø3.9" x 2.2")<br>145g (0.320lb)                 | Ø137 x 106.1mm (Ø5.39" x 4.18")<br>710g (1.565lb)                                                      |
| Additional Features               | Super compact design, Hallway View                          | Super compact design, Hallway View                          | Defocus detection, Directional detection,<br>Motion detection, Enter/Exit, Tampering, Virtual line     |



**QNV-7032R**  
4MP IR Vandal Dome Camera



**QNV-7022R**  
4MP IR Vandal Dome Camera



**QNV-7012R**  
4MP IR Vandal Dome Camera



**QNV-6082R/6082R1**  
2MP IR Vandal Dome Camera



**QNV-6072R/6072R1**  
2MP IR Vandal Dome Camera

|                                   |                                                                                                 |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
|-----------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/3" CMOS                                                                                       | 1/3" CMOS                                                                                | 1/3" CMOS                                                                                | 1/2.8" CMOS                                                                                    | 1/2.8" CMOS                                                                                    |
| Resolution / Max. Frame Rate      | 4MP / 30fps                                                                                     | 4MP / 30fps                                                                              | 4MP / 30fps                                                                              | 2MP / 30fps                                                                                    | 2MP / 30fps                                                                                    |
| Min. Illumination                 | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)                                       | Color : 0.15Lux (F1.6, 1/30sec)<br>B/W : 0Lux (IR LED On)                                | Color : 0.15Lux (F2.0, 1/30sec)<br>B/W : 0Lux (IR LED On)                                | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                               | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                               |
| Video Out                         | CVBS 1.0 Vp-p                                                                                   |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Focal Length (Zoom Ratio)         | 6mm fixed focal                                                                                 | 4mm fixed focal                                                                          | 2.8mm fixed focal                                                                        | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                       | 3.2 ~ 10mm (3.1x)<br>manual varifocal                                                          |
| Angular Field of View             | H: 49.0° / V: 27.6° / D: 55.6°                                                                  | H: 78.2° / V: 41.2° / D: 92°                                                             | H: 78.2° / V: 41.2° / D: 92°                                                             | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele) | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele) |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| IR Viewable Length                | 30m (98.42ft)                                                                                   | 25m (82.02ft)                                                                            | 20m (65.62ft)                                                                            | 30m (98.42ft)                                                                                  | 30m (98.42ft)                                                                                  |
| Day & Night                       | Auto (ICR)                                                                                      |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Wide Dynamic Range                | 120dB                                                                                           |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Digital Noise Reduction           | SSNR                                                                                            |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Digital Image Stabilization       | -                                                                                               |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Analytics                         | Intelligent analytics                                                                           |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Business Intelligence             | -                                                                                               |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Alarm I/O                         | 1 / 1                                                                                           |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Audio I/O                         | Selectable (mic in/line in) / -                                                                 |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Video Compression                 | H.265 / H.264, MJPEG                                                                            |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| WiseStream                        | WiseStream II                                                                                   |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Streaming                         | Up to 3 Profiles                                                                                |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Edge Storage                      | Micro SD/SDHC/SDXC 1 slot 128GB                                                                 | micro SD/SDHC/SDXC 1 slot 128GB                                                          | micro SD/SDHC/SDXC 1 slot 128GB                                                          | micro SD/SDHC/SDXC                                                                             | micro SD/SDHC/SDXC                                                                             |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                          | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                   | ONVIF Profile S/G/T, SUNAPI (HTTP API)                                                   | ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform                                       | ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform                                       |
| Operating Temperature / Humidity  | -40°C ~ +55°C (-40°F ~ +131°F) / 0~95% RH<br>* Start up should be done at -30°C or above        | -40°C ~ +55°C (-40°F ~ +131°F) / 0~95% RH<br>* Start up should be done at -30°C or above | -40°C ~ +55°C (-40°F ~ +131°F) / 0~95% RH<br>* Start up should be done at -30°C or above | -30°C ~ +55°C (-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                                | -30°C ~ +55°C (-22°F ~ +131°F)<br>* Start up above -20°C (-4°F)                                |
| Certification                     | IP66, IK10                                                                                      | IP66, IK10                                                                               | -                                                                                        | IP66, IK10                                                                                     | IP66, IK10                                                                                     |
| Power Consumption                 | PoE: Max 10.7W, typical 8.1W<br>12VDC: Max 9.1W, typical 6.5W                                   |                                                                                          |                                                                                          |                                                                                                |                                                                                                |
| Product Dimensions / Weight       | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61"),<br>510g (1.124lb)                                           | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61"),<br>510g (1.124lb)                                    | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61"),<br>510g (1.124lb)                                    | Ø 137 x 106.1mm (Ø 5.39" x 4.18")<br>710g (1.565lb)                                            | Ø 137 x 106.1mm (Ø 5.39" x 4.18")<br>710g (1.565lb)                                            |
| Additional Features               | Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line |                                                                                          |                                                                                          | Hallway View                                                                                   | Hallway View                                                                                   |



**QNV-6022R/6022R1**  
2MP IR Vandal Dome Camera



**QNV-6012R/6012R1**  
2MP IR Vandal Dome Camera



**QNV-6024RM**  
2MP IR Flat Camera



**QNP-6320**  
2MP 32x Indoor PTZ Camera

|                                   |                                                                 |                                                                 |                                                                  |                                                                                                                               |
|-----------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                     |                                                                 |                                                                  |                                                                                                                               |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                     |                                                                 |                                                                  |                                                                                                                               |
| Min. Illumination                 | Color : 0.03Lux (F1.6)<br>B/W : 0Lux (IR LED on)                | Color : 0.03Lux (F2.0)<br>B/W : 0Lux (IR LED on)                | Color : 0.03Lux (F2.0)<br>B/W : 0Lux (IR LED on)                 | Color : 0.05Lux (F1.6, 1/30sec)<br>BW : 0.005Lux (F1.6, 1/30sec)                                                              |
| Video Out                         | CVBS 1.0 Vp-p                                                   | CVBS 1.0 Vp-p                                                   | CVBS 1.0 Vp-p                                                    | —                                                                                                                             |
| Focal Length (Zoom Ratio)         | 4mm fixed                                                       | 2.8mm fixed                                                     | 3.6mm fixed                                                      | 4.44~142.6mm(32x) zoom<br>(digital 32x, total 1024x zoom)                                                                     |
| Angular Field of View             | H : 87.6° / V : 46.4° / D : 104.5°                              | H : 113.74° / V : 61.5° / D : 134.45°                           | H : 94.8° / V : 49.3° / D : 114.3°                               | H : 64.66° (Wide)~2.29° (Tele)<br>V : 38.08° (Wide)~1.30° (Tele)                                                              |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                | ± 5° / 0° ~ 67° / ± 90°                                          | 360° Endless / ~105° (90° ~ ~15°)                                                                                             |
| IR Viewable Length                | 25m (82.02ft)                                                   | 20m (65.62ft)                                                   | 15m (49.21ft)                                                    | —                                                                                                                             |
| Day & Night                       | Auto (ICR)                                                      |                                                                 |                                                                  |                                                                                                                               |
| Wide Dynamic Range                | 120dB                                                           |                                                                 |                                                                  |                                                                                                                               |
| Digital Noise Reduction           | SSNR                                                            | SSNR                                                            | SSNR                                                             | SSNR V                                                                                                                        |
| Digital Image Stabilization       | —                                                               | —                                                               | —                                                                | Support (built-in gyro sensor)                                                                                                |
| Analytics                         | Intelligent analytics                                           | Intelligent analytics                                           | Intelligent analytics                                            | <b>Analytics events</b><br>- Directional detection, Motion detection, Enter/Exit,<br>Tampering, Virtual line, Audio detection |
| Business Intelligence             | —                                                               | —                                                               | —                                                                | —                                                                                                                             |
| Alarm I/O                         | 1 / 1                                                           | 1 / 1                                                           | —                                                                | Input 4ea / Output 2ea                                                                                                        |
| Audio I/O                         | Selectable (mic in/line in)                                     | Selectable (mic in/line in)                                     | Selectable (mic in/line in/built-in mic) / Line out              | Selectable (mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max. output level: 1Vrms     |
| Video Compression                 | H.265 / H.264, MJPEG                                            |                                                                 |                                                                  |                                                                                                                               |
| WiseStream                        | WiseStream II                                                   |                                                                 |                                                                  | Manual (5ea area), WiseStream II                                                                                              |
| Streaming                         | Up to 3 Profiles                                                | Up to 3 Profiles                                                | Up to 3 Profiles                                                 | Up to 10 profiles                                                                                                             |
| Edge Storage                      | micro SD/SDHC/SDXC                                              | micro SD/SDHC/SDXC                                              | micro SD/SDHC/SDXC                                               | micro SD/SDHC/SDXC 1 slot 256GB                                                                                               |
| Application Programming Interface | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform     | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform     | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform      | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform                                                                   |
| Operating Temperature / Humidity  | -30°C ~ +55°C (-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) | -30°C ~ +55°C (-22°F ~ +131°F)<br>* Start up above -20°C (-4°F) | -30°C ~ +55°C<br>(-22°F ~ +131°F)                                | -10° C ~ +55° C (14° F ~ +131° F) /<br>0~95% RH (Non-condensing)                                                              |
| Certification                     | IP66, IK10                                                      | IP66, IK10                                                      | IP66, IK10, NEMA4X                                               | —                                                                                                                             |
| Power Consumption                 | PoE : Max 7.4W, typical 6W<br>12VDC : Max 6.4W                  | PoE : Max 7.4W, typical 6W<br>12VDC : Max 6.4W                  | PoE : Max 6.7W, typical 5W                                       | PoE+ : Max 14.5W, typical 12W                                                                                                 |
| Product Dimensions / Weight       | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61")<br>510g (1.124lb)            | Ø 120.3 x 91.7mm (Ø 4.74" x 3.61")<br>510g (1.124lb)            | W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94")<br>295g (0.65lb) | Ø 152 x 218mm (Ø 5.98 x 8.58"), 1<br>700g (3.75lb)                                                                            |
| Additional Features               | Hallway View                                                    | Hallway View                                                    | M12 connector, Hallway View                                      | Directional detection, Motion detection, Enter/Exit,<br>Tampering, Virtual line, Audio detection                              |





**QNP-6320R**  
2MP 32x IR PTZ Camera



**QNP-6320H**  
2MP 32x Outdoor PTZ Camera



**QNP-6250**  
2MP 32x Outdoor PTZ Camera



**QNP-6250R**  
2MP 25x IR PTZ Camera

|                                   |                                                                                                                                                               |                                                                                                                             |                                                                                                                            |                                                                                                                             |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                   | 1/2.8" CMOS                                                                                                                 | 1/2.8" CMOS                                                                                                                | 1/2.8" CMOS                                                                                                                 |
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                                                                                   | 2MP / 60fps                                                                                                                 | 2MP / 60fps                                                                                                                | 2MP / 60fps                                                                                                                 |
| Min. Illumination                 | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED On)                                                                   | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE)                                                  | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE)                                                 | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED On)                                 |
| Video Out                         | —                                                                                                                                                             | —                                                                                                                           | —                                                                                                                          | —                                                                                                                           |
| Focal Length (Zoom Ratio)         | 4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)                                                                                                        | 4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)                                                                      | 4.44~111mm(25x) zoom (digital 32x, total 800x zoom)                                                                        | 4.44~111mm(25x) zoom (digital 32x, total 800x zoom)                                                                         |
| Angular Field of View             | H: 64.66°(Wide)~2.29°(Tele)<br>V: 38.08°(Wide)~1.30°(Tele)                                                                                                    | H: 64.66°(Wide)~2.29°(Tele)<br>V: 38.08°(Wide)~1.30°(Tele)                                                                  | H: 64.66°(Wide)~2.99°(Tele)<br>V: 38.08°(Wide)~1.68°(Tele)                                                                 | H: 64.66°(Wide)~2.99°(Tele)<br>V: 38.08°(Wide)~1.68°(Tele)                                                                  |
| Pan / Tilt / Rotate Range         | 360° Endless / -110° (90° ~ -20°)                                                                                                                             | 360° Endless / 105° (90° ~ -15°)                                                                                            | 360° Endless / 105° (90° ~ -15°)                                                                                           | 360° Endless / -110° (90° ~ -20°)                                                                                           |
| IR Viewable Length                | 100m(328.08ft)                                                                                                                                                | —                                                                                                                           | —                                                                                                                          | 100m(328.08ft)                                                                                                              |
| Day & Night                       | Auto(ICR)                                                                                                                                                     |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Wide Dynamic Range                | 120dB                                                                                                                                                         |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Digital Noise Reduction           | SSNR V                                                                                                                                                        |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                 |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Analytics                         | <b>Analytics events</b><br>- Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line<br>* Audio detection(Via optional I/O box SPM-4210) |                                                                                                                             | <b>Analytics events</b><br>- Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection |                                                                                                                             |
| Business Intelligence             | —                                                                                                                                                             | —                                                                                                                           | —                                                                                                                          | —                                                                                                                           |
| Alarm I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                               |                                                                                                                             | Input 4ea / Output 2ea                                                                                                     | Compatible with NW I/O Box (Optional: SPM-4210)                                                                             |
| Audio I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                               |                                                                                                                             | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms    | Compatible with NW I/O Box (Optional: SPM-4210)                                                                             |
| Video Compression                 | H.265/H.264: Main/High, MJPEG                                                                                                                                 | H.265/H.264: Main/High, MJPEG                                                                                               | H.265/H.264: Main/High, MJPEG                                                                                              | H.265/H.264: Main/High, MJPEG                                                                                               |
| WiseStream                        | Manual(5ea area), WiseStream II                                                                                                                               |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Streaming                         | Up to 10 profiles                                                                                                                                             |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot Max. 256GB                                                                                                                           | Micro SD/SDHC/SDXC 1slot Max. 256GB                                                                                         | Micro SD/SDHC/SDXC 1slot Max. 256GB                                                                                        | Micro SD/SDHC/SDXC 1slot Max. 256GB                                                                                         |
| Application Programming Interface | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                          |                                                                                                                             |                                                                                                                            |                                                                                                                             |
| Operating Temperature / Humidity  | -35°C~+55°(-31°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent                                   | -35°C~+55°(-31°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent | -10°C~+55°C(14°F~+131°F) / 0~95% RH<br>(Non-condensing)                                                                    | -35°C~+55°(-31°F~+131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent |
| Certification                     | IP66, IK10, NEMA4X                                                                                                                                            | IP66, IK10, NEMA4X                                                                                                          | —                                                                                                                          | IP66, IK10, NEMA4X                                                                                                          |
| Power Consumption                 | PoE+: Max. 25.5W, typical 14.7W                                                                                                                               | PoE+: Max. 23W, typical 14W                                                                                                 | PoE+: Max 14.5W, typical 12W                                                                                               | PoE+: Max. 25.5W, typical 14.7W                                                                                             |
| Product Dimensions / Weight       | ø 158x293.3mm(ø 6.22x11.55"),<br>3100g(6.83lb)                                                                                                                | ø 204.3x265mm(ø 8.04x10.43"),<br>2700g(5.95lb)                                                                              | ø 152x218mm(ø 5.98x8.58"),<br>1700g(3.75lb)                                                                                | ø 158x293.3mm(ø 6.22x11.55"),<br>3100g(6.83lb)                                                                              |
| Additional Features               | Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(with NW I/O Box)                                               |                                                                                                                             |                                                                                                                            |                                                                                                                             |



**QNP-6250H**  
2MP 25x Outdoor PTZ Camera



**QNP-6320HS**  
2MP 32x Stainless Steel PTZ Camera



**QNF-9010**  
12MP Fisheye Camera



**QNF-8010**  
6MP Fisheye Camera

| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                    | 1/2.8" CMOS                                                                                                                     | 1/2.3" CMOS                                                 | 1/1.8" CMOS                                               |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------|
| Resolution / Max. Frame Rate      | 2MP / 60fps                                                                                                                                                    | 2MP / 30fps                                                                                                                     | 9MP / 30fps                                                 | 4MP / 30fps                                               |
| Min. Illumination                 | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE)                                                                                     | Color: 0.05Lux(F1.6, 1/30sec, 30IRE)<br>BW: 0.005Lux(F1.6, 1/30sec, 30IRE)                                                      | Color: 0.39 Lux (F2.2, 1/30sec)                             | Color: 0.2 Lux (F2.5)                                     |
| Video Out                         | –                                                                                                                                                              | –                                                                                                                               | CVBS 1.0 Vp-p                                               | CVBS 1.0 Vp-p                                             |
| Focal Length (Zoom Ratio)         | 4.44~111mm(25x) zoom<br>(digital 32x, total 800x zoom)                                                                                                         | 4.44~142.6mm(32x) zoom<br>(digital 32x, total 1024x zoom)                                                                       | 1.08mm fixed                                                | 1.14mm fixed                                              |
| Angular Field of View             | H: 64.66° (Wide) ~ 2.99° (Tele)<br>V: 38.08° (Wide) ~ 1.68° (Tele)                                                                                             | H: 64.66° (Wide) ~ 2.29° (Tele)<br>V: 38.08° (Wide) ~ 1.30° (Tele)                                                              | H: 187° / V: 187° / D: 187°                                 | H: 187° / V: 187° / D: 187°                               |
| Pan / Tilt / Rotate Range         | 360° Endless / -105° (90° ~ -15°)                                                                                                                              | 360° Endless / -105° (90° ~ -15°)                                                                                               | –                                                           | –                                                         |
| IR Viewable Length                | –                                                                                                                                                              | –                                                                                                                               | –                                                           | –                                                         |
| Day & Night                       | Auto(ICR)                                                                                                                                                      | Auto(ICR)                                                                                                                       | Auto (Electrical)                                           | Auto (Electrical)                                         |
| Wide Dynamic Range                | 120dB                                                                                                                                                          | 120dB                                                                                                                           | 120dB                                                       | 120dB                                                     |
| Digital Noise Reduction           | SSNRV                                                                                                                                                          | SSNRV                                                                                                                           | SSNRV                                                       | SSNRV                                                     |
| Digital Image Stabilization       | Support(built-in gyro sensor)                                                                                                                                  | Support(built-in gyro sensor)                                                                                                   | –                                                           | –                                                         |
| Analytics                         | <b>Analytics events</b><br>– Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line<br>* Audio detection (Via optional I/O box SPM-4210) |                                                                                                                                 | Defocus detection,<br>Motion detection, Tampering           | Intelligent analytics                                     |
| Business Intelligence             | –                                                                                                                                                              | –                                                                                                                               | People counting, Heatmap                                    | People counting, Heatmap                                  |
| Alarm I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                |                                                                                                                                 | –                                                           | –                                                         |
| Audio I/O                         | Compatible with NW I/O Box (Optional: SPM-4210)                                                                                                                |                                                                                                                                 | –                                                           | –                                                         |
| Video Compression                 | H.265, H.264, MJPEG                                                                                                                                            |                                                                                                                                 |                                                             |                                                           |
| WiseStream                        | Manual (Sea area), WiseStream II                                                                                                                               |                                                                                                                                 | WiseStream II                                               | WiseStream II                                             |
| Streaming                         | Up to 10 profiles                                                                                                                                              |                                                                                                                                 | Up to 3 profiles                                            | Up to 3 profiles                                          |
| Edge Storage                      | Micro SD/SDHC/SDXC 1slot Max. 256GB                                                                                                                            | micro SD/SDHC/SDXC 1slot 256GB                                                                                                  | micro SD/SDHC/SDXC                                          | micro SD/SDHC/SDXC                                        |
| Application Programming Interface | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                         | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                          | ONVIF profile S/G/T, SUNAPI,<br>Hanwha Vision Open Platform | ONVIF profile S/G, SUNAPI,<br>Hanwha Vision Open Platform |
| Operating Temperature / Humidity  | -35°C ~ +55°C (-31°F ~ +131°F)<br>* Start up should be done at above -30°C<br>0~100%RH(Condensing) Humidity control with AIR vent                              | -35°C ~ +55°C (-31°F ~ +131°F) /<br>* Start up should be done at above -25°C<br>0~95% RH(non-condensing)                        | -10°C ~ +40°C<br>(+14°F ~ +104°F)                           | -10°C ~ +55°C<br>(+14°F ~ +131°F)                         |
| Certification                     | IP66, IK10, NEMA4X                                                                                                                                             | IP66, IP67, IK10, NEMA4X                                                                                                        | –                                                           | IP42                                                      |
| Power Consumption                 | Max. 23W, Typ. 14W                                                                                                                                             | Max. 23W, Typ. 14W                                                                                                              | PoE: Max 7.7W, typical 6.4W                                 | PoE: Max 6.4W, typical 4.6W                               |
| Product Dimensions / Weight       | ø 204.3x265mm (ø 8.04x10.43"), 2700g (5.95lb)                                                                                                                  | Ø 227x299.2mm (8.94x11.78"), 5400g (11.93 lb)                                                                                   | Ø 99 x 49 mm (Ø 3.9" x 1.93")<br>370g (0.82lb)              | Ø 99 x 49 mm (Ø 3.9" x 1.93")<br>320 g (0.705lb)          |
| Additional Features               | Directional detection, Motion detection,<br>Enter/Exit, Tampering, Virtual line<br>* Audio detection (with NW I/O Box)                                         | Directional detection, Motion detection,<br>Enter/Exit, Tampering, Virtual line, SUS316L<br>* Audio detection (with NW I/O Box) | Panorama view, Business Intelligence                        | Panorama view, Business Intelligence                      |



**TNO-4050T**  
VGA Thermal Bullet Camera



**TNO-4040T**  
VGA Thermal Bullet Camera

|                                    |                                                                                                                                                                                             |                                                                                                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        |
| Resolution                         | 640x480(original), 640x360, 320x240                                                                                                                                                         | 640x480(original), 640x360, 320x240                                                                                                                                                         |
| Max. Frame Rate                    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              |
| NETD                               | < 50mK                                                                                                                                                                                      | < 50mK                                                                                                                                                                                      |
| Pixel Pitch                        | 17μm                                                                                                                                                                                        | 17μm                                                                                                                                                                                        |
| Focal Length                       | 35mm fixed focal                                                                                                                                                                            | 19mm fixed focal                                                                                                                                                                            |
| Angular Field of View              | H: 17.2° / V: 13° / D: 22° (iFoV: 0.47 mRad)                                                                                                                                                | H: 32° / V: 24.3° / D: 39.2° (iFoV: 0.895 mRad)                                                                                                                                             |
| Min. Object Distance               | 36m(118.11ft)                                                                                                                                                                               | 11m(36.09ft)                                                                                                                                                                                |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 |
| Analytics                          | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering,<br>Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering,<br>Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                      | Input 1ea / Output 2ea                                                                                                                                                                      |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                     | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                     |
| Temperature Detect Range           | -                                                                                                                                                                                           | -                                                                                                                                                                                           |
| Temperature Accuracy               | -                                                                                                                                                                                           | -                                                                                                                                                                                           |
| Temperature Detection              | -                                                                                                                                                                                           | -                                                                                                                                                                                           |
| Additional                         | -                                                                                                                                                                                           | -                                                                                                                                                                                           |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                             | Manual(5ea area), WiseStream II                                                                                                                                                             |
| Streaming                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      |
| Edge Storage                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              |
| Application Programming Interface  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                      | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                      |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                     | 1024MB RAM, 256MB Flash                                                                                                                                                                     |
| Operating Temperature/<br>Humidity | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           |
| Certification                      | IP66, IK10, NEMA4X                                                                                                                                                                          | IP66, IK10, NEMA4X                                                                                                                                                                          |
| Power Consumption                  | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                              | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                              |
| Dimensions (WxHxD) /<br>Weight     | Φ101.97x401.8mm(4.01x15.82") / 3175g(7.01 lb)                                                                                                                                               | Φ101.97x401.8mm(4.01x15.82") / 3175g(7.01 lb)                                                                                                                                               |



**TNO-4030T**  
VGA Thermal Bullet Camera



**TNO-3010T**  
QVGA Thermal Bullet Camera

|                                    |                                                                                                                                                                                             |                                                                                                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        |
| Resolution                         | 640x480, 640x360, 320x240                                                                                                                                                                   | 320x240                                                                                                                                                                                     |
| Max. Frame Rate                    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              |
| NETD                               | <50mK                                                                                                                                                                                       | <60mK                                                                                                                                                                                       |
| Pixel Pitch                        | 17μm                                                                                                                                                                                        | 12μm                                                                                                                                                                                        |
| Focal Length                       | 13mm fixed focal                                                                                                                                                                            | 2.7mm fixed focal                                                                                                                                                                           |
| Angular Field of View              | H: 48.6° / V: 36.4° / D: 61.6°<br>(iFoV: 1.308 mRad)                                                                                                                                        | H: 92.0° / V: 65.5° / D: 125.7°<br>(iFoV: 1.308 mRad)                                                                                                                                       |
| Min. Object Distance               | 5m(16.40ft)                                                                                                                                                                                 | 0.3m(0.98ft)                                                                                                                                                                                |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 |
| Analytics                          | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering,<br>Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line,<br>Audio detection, Temperature detection, Sound classification, Shock detection |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                      | Input 1ea / Output 2ea                                                                                                                                                                      |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms                                                                        | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms                                                                        |
| Temperature Detect Range           | —                                                                                                                                                                                           | —                                                                                                                                                                                           |
| Temperature Accuracy               | —                                                                                                                                                                                           | —                                                                                                                                                                                           |
| Temperature Detection              | —                                                                                                                                                                                           | —                                                                                                                                                                                           |
| Additional                         | —                                                                                                                                                                                           | —                                                                                                                                                                                           |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                             | Manual(5ea area), WiseStream II                                                                                                                                                             |
| Streaming                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      |
| Edge Storage                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              |
| Application Programming Interface  | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                        | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                        |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                     | 1024MB RAM, 256MB Flash                                                                                                                                                                     |
| Operating Temperature/<br>Humidity | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           |
| Certification                      | IP66, IK10, NEMA4X                                                                                                                                                                          | IP66, IK10, NEMA4X                                                                                                                                                                          |
| Power Consumption                  | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                              | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0W                                                                                            |
| Dimensions (WxHxD) /<br>Weight     | Φ101.97x401.8mm(4.01x15.82") / 3124g(6.89 lb)                                                                                                                                               | Φ147.51x375.3mm(5.80x14.77") / 2512g(5.54 lb)                                                                                                                                               |



**TNO-3020T**  
QVGA Thermal Bullet Camera



**TNO-3030T**  
QVGA Thermal Bullet Camera



**TNO-3040T**  
QVGA Thermal Bullet Camera

|                                    |                                                                                                                                                                                          |                                                                                                                         |                                                                                                                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                    | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                    |
| Resolution                         | 320x240                                                                                                                                                                                  | 320x240                                                                                                                 | 320x240                                                                                                                 |
| Max. Frame Rate                    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                           | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                          | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                          |
| NETD                               | <60mK                                                                                                                                                                                    | <60mK                                                                                                                   | <60mK                                                                                                                   |
| Pixel Pitch                        | 12μm                                                                                                                                                                                     | 12μm                                                                                                                    | 12μm                                                                                                                    |
| Focal Length                       | 4.7mm fixed focal                                                                                                                                                                        | 13.7mm fixed focal                                                                                                      | 19mm fixed focal                                                                                                        |
| Angular Field of View              | H:50.0°/ V:36.4°/ D:65.3°<br>(iFoV: 2.73 mRad)                                                                                                                                           | H:16.0°/ V:12.0°/ D:20.0°<br>(iFoV: 2.73 mRad)                                                                          | H:11.5°/ V:8.7°/ D:14.4°<br>(iFoV: 2.73 mRad)                                                                           |
| Min. Object Distance               | 1m(3.28ft)                                                                                                                                                                               | 8m(26.25ft)                                                                                                             | 15m(49.21ft)                                                                                                            |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                              |                                                                                                                         |                                                                                                                         |
| Analytics                          | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection |                                                                                                                         |                                                                                                                         |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                   | Input 1ea / Output 2ea                                                                                                  | Input 1ea / Output 2ea                                                                                                  |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance:<br>2K Ohm Line out, Max.output level: 1Vrms                                                                  | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance:<br>2K Ohm Line out, Max.output level: 1Vrms | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance:<br>2K Ohm Line out, Max.output level: 1Vrms |
| Temperature Detect Range           | —                                                                                                                                                                                        | —                                                                                                                       | —                                                                                                                       |
| Temperature Accuracy               | —                                                                                                                                                                                        | —                                                                                                                       | —                                                                                                                       |
| Temperature Detection              | —                                                                                                                                                                                        | —                                                                                                                       | —                                                                                                                       |
| Additional                         | —                                                                                                                                                                                        | —                                                                                                                       | —                                                                                                                       |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                          | Manual(5ea area), WiseStream II                                                                                         | Manual(5ea area), WiseStream II                                                                                         |
| Streaming                          | Unicast(20 users) / MulticastMultiple streaming(Up to 10 profiles)                                                                                                                       |                                                                                                                         |                                                                                                                         |
| Edge Storage                       | Micro SD/SDHC/SDXC 1 slot 256GB                                                                                                                                                          |                                                                                                                         |                                                                                                                         |
| Application Programming Interface  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                   | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                  |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                  | 1024MB RAM, 256MB Flash                                                                                                 | 1024MB RAM, 256MB Flash                                                                                                 |
| Operating Temperature/<br>Humidity | −40°C ~ +60°C (−40°F ~ +140°F) / Less than 90% RH                                                                                                                                        | −40°C ~ +60°C (−40°F ~ +140°F) / Less than 90% RH                                                                       | −40°C ~ +60°C (−40°F ~ +140°F) / Less than 90% RH                                                                       |
| Certification                      | IP66, IK10, NEMA4X                                                                                                                                                                       | IP66, IK10, NEMA4X                                                                                                      | IP66, IK10, NEMA4X                                                                                                      |
| Power Consumption                  | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0W                                                                                         | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0W                        | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0W                        |
| Dimensions (WxHxD) /<br>Weight     | Φ 147.51x375.3mm(58.07x147.76") /<br>2512g(5.538lb)                                                                                                                                      | Φ 147.51x375.3mm(58.07x147.76") /<br>2512g(5.538lb)                                                                     | Φ 147.51x375.3mm(5.81x14.78") /<br>2495g(5.50lb)                                                                        |



**TNO-3050T**  
QVGA Thermal Bullet Camera



**TNO-L3030T**  
QVGA Thermal Bullet Camera



**TNO-L4030T**  
VGA Thermal Bullet Camera

|                                    |                                                                                                                                                                                          |                                                                                                                         |                                                                                                |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                    | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                           |
| Resolution                         | 320x240                                                                                                                                                                                  | 320x240                                                                                                                 | 640x480(original), 640x360, 320x240                                                            |
| Max. Frame Rate                    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                           | H.265/H.264/MJPEG: Max. 8fps                                                                                            | H.265/H.264/MJPEG: Max. 8fps                                                                   |
| NETD                               | <60mK                                                                                                                                                                                    | <60mK                                                                                                                   | <50mK                                                                                          |
| Pixel Pitch                        | 12μm                                                                                                                                                                                     | 12μm                                                                                                                    | 17μm                                                                                           |
| Focal Length                       | 35mm fixed focal                                                                                                                                                                         | 13.7mm fixed focal                                                                                                      | 13mm fixed focal                                                                               |
| Angular Field of View              | H: 6.3° / V: 4.7° / D: 7.8°<br>(iFoV: 0.34 mRad)                                                                                                                                         | H: 16.0° / V: 12.0° / D: 20.0°<br>(iFoV: 0.87 mRad)                                                                     | H: 48.6° / V: 36.4° / D: 61.6°<br>(iFoV: 1.308 mRad)                                           |
| Min. Object Distance               | 51m                                                                                                                                                                                      | 8m(26.25ft)                                                                                                             | 5m(16.40ft)"                                                                                   |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                              |                                                                                                                         |                                                                                                |
| Analytics                          | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection |                                                                                                                         |                                                                                                |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                   | Input 1ea / Output 2ea                                                                                                  | Input 1ea / Output 2ea                                                                         |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                  | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm             |
| Temperature Detect Range           | -                                                                                                                                                                                        | -                                                                                                                       | -                                                                                              |
| Temperature Accuracy               | -                                                                                                                                                                                        | -                                                                                                                       | -                                                                                              |
| Temperature Detection              | -                                                                                                                                                                                        | -                                                                                                                       | -                                                                                              |
| Additional                         | -                                                                                                                                                                                        | -                                                                                                                       | -                                                                                              |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                          | Manual(5ea area), WiseStream II                                                                                         | Manual(5ea area), WiseStream II                                                                |
| Streaming                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                   | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                  | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                         |
| Edge Storage                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                           | Micro SD/SDHC/SDXC 1slot 256GB                                                                                          | Micro SD/SDHC/SDXC 1slot 256GB                                                                 |
| Application Programming Interface  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                   | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                         |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                  | 1024MB RAM, 256MB Flash"                                                                                                | 1024MB RAM, 256MB Flash                                                                        |
| Operating Temperature/<br>Humidity | -40° C ~ +60° C (-40° F ~ +140° F) /<br>Less than 90% RH                                                                                                                                 | -40° C to +60° C (-40° F to +140° F) /<br>Less than 90% RH                                                              | -40° C ~ +60° C (-40° F ~ +140° F) /<br>Less than 90% RH                                       |
| Certification                      | IP66, NEMA4X                                                                                                                                                                             | IP66, IK 10, NEMA4X                                                                                                     | IP66, IK 10, NEMA4X                                                                            |
| Power Consumption                  | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0W                                                                                         | PoE: Max. 8.7W, typical 7.5W<br>12VDC: Max. 7.8W, typical 6.7W<br>24VAC: Max. 9.2W, typical 8.0                         | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W |
| Dimensions (WxHxD) /<br>Weight     | Φ147.51x401.3mm(5.81x15.79") / 2742g(6.05lb)                                                                                                                                             | Φ147.51x375.3mm(58.07x147.76") / 2512g(5.538lb)                                                                         | Φ101.97x401.8mm(4.01x15.82") / 3124g(6.89lb)                                                   |



**TNO-L4040T**  
VGA Thermal Bullet Camera



**TNO-L4050T**  
VGA Thermal Bullet Camera

|                                    |                                                                                                                                                                                            |                                                                                                                         |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                       | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                    |
| Resolution                         | 640x480(original), 640x360, 320x240                                                                                                                                                        | 640x480(original), 640x360, 320x240                                                                                     |
| Max. Frame Rate                    | H.265/H.264/MJPEG: Max. 8fps                                                                                                                                                               | H.265/H.264/MJPEG: Max. 8fps                                                                                            |
| NETD                               | < 50mK                                                                                                                                                                                     | < 50mK                                                                                                                  |
| Pixel Pitch                        | 17μm                                                                                                                                                                                       | 17μm                                                                                                                    |
| Focal Length                       | 19mm fixed focal                                                                                                                                                                           | 35mm fixed focal                                                                                                        |
| Angular Field of View              | H: 32° / V: 24.3° / D: 39.2°<br>(iFoV: 0.895 mRad)                                                                                                                                         | H: 17.2° / V: 13° / D: 22°<br>(iFoV: 1.308 mRad)                                                                        |
| Min. Object Distance               | 11m(36.09ft)                                                                                                                                                                               | 36m(118.11ft)                                                                                                           |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                |                                                                                                                         |
| Analytics                          | □ Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection |                                                                                                                         |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                     | Input 1ea / Output 2ea                                                                                                  |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms                                                                    | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm<br>Line out, Max.output level: 1Vrms |
| Temperature Detect Range           | —                                                                                                                                                                                          | —                                                                                                                       |
| Temperature Accuracy               | —                                                                                                                                                                                          | —                                                                                                                       |
| Temperature Detection              | —                                                                                                                                                                                          | —                                                                                                                       |
| Additional                         | —                                                                                                                                                                                          | —                                                                                                                       |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                            | Manual(5ea area), WiseStream II                                                                                         |
| Streaming                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                     | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                  |
| Edge Storage                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                             | Micro SD/SDHC/SDXC 1slot 256GB                                                                                          |
| Application Programming Interface  | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                     | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                  |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                    | 1024MB RAM, 256MB Flash                                                                                                 |
| Operating Temperature/<br>Humidity | -40° C ~ +60° C (-40° F ~ +140° F) /<br>Less than 90% RH                                                                                                                                   | -40° C ~ +60° C (-40° F ~ +140° F) /<br>Less than 90% RH                                                                |
| Certification                      | IP66, IK10, NEMA4X                                                                                                                                                                         | IP66, IK10, NEMA4X                                                                                                      |
| Power Consumption                  | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                             | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                          |
| Dimensions (WxHxD) /<br>Weight     | ø 101.97x401.8mm(4.01x15.82") / 3,124g(6.89lb)                                                                                                                                             | ø 101.97x401.8mm(4.01x15.82") / 3,124g(6.89lb)                                                                          |





**TNO-4040TR**  
VGA Radiometric Thermal Camera



**TNO-4030TR**  
VGA Radiometric Thermal Camera

|                                    |                                                                                                                                                                                             |                                                                                                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                     | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        | Uncooled micro bolometer<br>(Spectral range: 8~14μm)                                                                                                                                        |
| Resolution                         | 640x480, 640x360, 320x240                                                                                                                                                                   | 640x480, 640x360, 320x240                                                                                                                                                                   |
| Max. Frame Rate                    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 30fps/25fps(60Hz/50Hz)                                                                                                              |
| NETD                               | < 50mK                                                                                                                                                                                      | < 50mK                                                                                                                                                                                      |
| Pixel Pitch                        | 17μm                                                                                                                                                                                        | 17μm                                                                                                                                                                                        |
| Focal Length                       | 19mm fixed focal                                                                                                                                                                            | 13mm fixed focal                                                                                                                                                                            |
| Angular Field of View              | H: 32° / V: 24.3° / D: 39.2°<br>(iFoV: 0.895 mRad)                                                                                                                                          | H: 48.6° / V: 36.4° / D: 61.6°<br>(iFoV: 1.308 mRad)                                                                                                                                        |
| Min. Object Distance               | 11m(36.09ft)                                                                                                                                                                                | 5m(16.40ft) (iFoV: 1.308 mRad)                                                                                                                                                              |
| Video Output                       | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                 |
| Analytics                          | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering,<br>Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection | Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering,<br>Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection |
| Alarm I/O                          | Input 1ea / Output 2ea                                                                                                                                                                      | Input 1ea / Output 2ea                                                                                                                                                                      |
| Audio I/O                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm                                                                                                          | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm                                                                                                          |
| Temperature Detect Range           | -20°C~130°C(-4°F~266°F)                                                                                                                                                                     | -20°C~130°C(-4°F~266°F)                                                                                                                                                                     |
| Temperature Accuracy               | ± 5°C(≤ 100°C), ± 20%(> 100°C)                                                                                                                                                              | ± 5°C(≤ 100°C), ± 20%(> 100°C)                                                                                                                                                              |
| Temperature Detection              | 6 Quadrangle ROI zones, whole FoV area                                                                                                                                                      | 6 Quadrangle ROI zones, whole FoV area                                                                                                                                                      |
| Additional                         | Hybrid palettes, Spot temperature reading                                                                                                                                                   | Hybrid palettes, Spot temperature reading                                                                                                                                                   |
| WiseStream                         | Manual(5ea area), WiseStream II                                                                                                                                                             | Manual(5ea area), WiseStream II                                                                                                                                                             |
| Streaming                          | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles)                                                                                                                      |
| Edge Storage                       | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              | Micro SD/SDHC/SDXC 1slot 256GB                                                                                                                                                              |
| Application Programming Interface  | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Wisenet open platform                                                                                                                              | ONVIF Profile S/G/T, SUNAPI(HTTP API)<br>Wisenet open platform                                                                                                                              |
| Memory                             | 1024MB RAM, 256MB Flash                                                                                                                                                                     | 1024MB RAM, 256MB Flash                                                                                                                                                                     |
| Operating Temperature/<br>Humidity | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH                                                                                                                                           |
| Certification                      | IP66, IK10, NEMA4X                                                                                                                                                                          | IP66, IK10, NEMA4X                                                                                                                                                                          |
| Power Consumption                  | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                              | PoE: Max. 10W, typical 8.6W<br>12VDC: Max. 9W, typical 7.5W<br>24VAC: Max. 10.5W, typical 8.9W                                                                                              |
| Dimensions (WxHxD) /<br>Weight     | Φ101.97x401.8mm(4.01x15.82") / 3,175g(7.01lb)                                                                                                                                               | Φ101.97x401.8mm(4.01x15.82") / 3,124g(6.89lb)                                                                                                                                               |



**TNV-7011RC**  
**3MP Corner Mount Camera**



**TNV-8011C**  
**5MP Corner Mount Camera**

|                                   |                                                                                                                                                                                                                                                  |                                                                                                                     |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                                                                                                                                                                      | 1/2.8" CMOS                                                                                                         |
| Resolution / Max. Frame Rate      | 3MP / 30fps                                                                                                                                                                                                                                      | 5MP / 30fps                                                                                                         |
| Min. Illumination                 | Color: 0.3 lux (F2.0, 1/30sec)<br>B/W: 0 lux (F2.0, 1/30sec)                                                                                                                                                                                     | Color: 0.1 lux (F2.3, 1/30sec)<br>B/W: 0.02 lux (F2.3, 1/30sec)                                                     |
| Video Out                         | CVBS: 1.0 Vp-p                                                                                                                                                                                                                                   | CVBS: 1.0 Vp-p, Micro USB Type B                                                                                    |
| Focal Length (Zoom Ratio)         | 2.8mm fixed focal                                                                                                                                                                                                                                | 2.3mm fixed focal                                                                                                   |
| Angular Field of View             | H: 102° / V: 75° / D: 129°                                                                                                                                                                                                                       | H: 131° / V: 93.4° / D: 174°                                                                                        |
| Pan / Tilt / Rotate Range         | - / 30° ~ 60° / -                                                                                                                                                                                                                                | -                                                                                                                   |
| IR Viewable Length                | 10m(32.8ft)                                                                                                                                                                                                                                      | -                                                                                                                   |
| Day & Night                       | Auto(ICR)                                                                                                                                                                                                                                        | Auto(ICR)                                                                                                           |
| Wide Dynamic Range                | 120dB                                                                                                                                                                                                                                            | 120dB                                                                                                               |
| Digital Noise Reduction           | SSNR <b>V</b>                                                                                                                                                                                                                                    | SSNR                                                                                                                |
| Digital Image Stabilization       | Support                                                                                                                                                                                                                                          | Support                                                                                                             |
| Analytics                         | Tampering, Loitering, Directional detection, Defocus detection, Fog detection,<br>Virtual line, Enter/Exit, Appear/Disappear, Audio detection, Face detection, Motion detection,<br>Digital auto tracking, Sound classification, Shock detection | Defocus detection, Directional detection, Motion detection, Enter/Exit,<br>Tampering, Virtual line, Audio detection |
| Business Intelligence             | -                                                                                                                                                                                                                                                | -                                                                                                                   |
| Alarm I/O                         | 1 / 1                                                                                                                                                                                                                                            | 1 / 1                                                                                                               |
| Audio I/O                         | Selectable(mic in/line in) / Line out                                                                                                                                                                                                            | Selectable(mic in/line in) / Line out                                                                               |
| Video Compression                 | H.265, H.264, MJPEG                                                                                                                                                                                                                              | H.265, H.264, MJPEG                                                                                                 |
| WiseStream                        | WiseStream <b>II</b>                                                                                                                                                                                                                             | WiseStream <b>II</b>                                                                                                |
| Streaming                         | Up to 10 profiles                                                                                                                                                                                                                                | Up to 3 profiles                                                                                                    |
| Edge Storage                      | Micro SD/SDHC/SDXC 1 slot 256GB                                                                                                                                                                                                                  | Micro SD/SDHC/SDXC 1 slot 128GB                                                                                     |
| Application Programming Interface | SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                                                                                                                                                  | SUNAPI(HTTP API)<br>Hanwha Vision Open Platform                                                                     |
| Operating Temperature / Humidity  | -10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH                                                                                                                                                                                                 | -10°C ~ +55°C(+14°F ~ +131°F) / Less than 95% RH                                                                    |
| Certification                     | IP66, IP6K9K, IK10+                                                                                                                                                                                                                              | IP66, IP6K9K, IK10                                                                                                  |
| Power Consumption                 | PoE: Max 12W, typical 10.1W,<br>12VDC: Max. 11W, typical 8.6W                                                                                                                                                                                    | PoE: Max 6.49W, typical 4.6W,                                                                                       |
| Product Dimensions / Weight       | Ø295.5x113.5mm(11.6x4.47") / 2.1kg(4.63lb)                                                                                                                                                                                                       | 170(W)x165(H)x78.8(D)mm(6.69x6.49x3.10") / 830g(1.83lb)                                                             |



**LND-6072R**  
2MP IR Dome Camera



**LNV-6012R**  
2MP IR Vandal Dome Camera



**LNV-6022R**  
2MP IR Vandal Dome Camera



**LNV-6072R**  
2MP IR Vandal Dome Camera

|                                   |                                                                                                |                                                                                                 |                                                                                                 |                                                                                                 |
|-----------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Imaging Device                    | 1/2.8" CMOS                                                                                    |                                                                                                 |                                                                                                 |                                                                                                 |
| Resolution / Max. Frame Rate      | 2MP / 30fps                                                                                    |                                                                                                 |                                                                                                 |                                                                                                 |
| Min. Illumination                 | Color: 0.03Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on)                                         | Color: 0.03Lux (F2.0, 1/30sec)<br>BW: 0Lux (IR LED on)                                          | Color: 0.03Lux (F2.0, 1/30sec)<br>BW: 0Lux (IR LED on)                                          | Color: 0.03Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on)                                          |
| Video Out                         | -                                                                                              |                                                                                                 |                                                                                                 |                                                                                                 |
| Focal Length (Zoom Ratio)         | 3.2 ~ 10mm (3.1x) manual varifocal                                                             | 2.8mm fixed focal                                                                               | 4.0mm fixed focal                                                                               | 3.2 ~ 10mm (3.1x) manual varifocal                                                              |
| Angular Field of View             | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele) | H: 113.7° / V: 61.5° / D: 134.4°                                                                | H: 84.3° / V: 45.6° / D: 98.3°                                                                  | H: 109° (Wide) ~ 33.2° (Tele)<br>V: 57.4° (Wide) ~ 18.7° (Tele)<br>D: 132° (Wide) ~ 38° (Tele)  |
| Pan / Tilt / Rotate Range         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                               |                                                                                                 |                                                                                                 |                                                                                                 |
| IR Viewable Length                | 20m (65.62ft)                                                                                  | 30m (98.43ft)                                                                                   | 30m (98.43ft)                                                                                   | 30m (98.43ft)                                                                                   |
| Day & Night                       | Auto (ICR)                                                                                     |                                                                                                 |                                                                                                 |                                                                                                 |
| Wide Dynamic Range                | 120dB                                                                                          |                                                                                                 |                                                                                                 |                                                                                                 |
| Digital Noise Reduction           | SSNR                                                                                           |                                                                                                 |                                                                                                 |                                                                                                 |
| Digital Image Stabilization       | -                                                                                              |                                                                                                 |                                                                                                 |                                                                                                 |
| Analytics                         | Motion detection, Tampering                                                                    |                                                                                                 |                                                                                                 |                                                                                                 |
| Business Intelligence             | -                                                                                              |                                                                                                 |                                                                                                 |                                                                                                 |
| Alarm I/O                         | -                                                                                              |                                                                                                 |                                                                                                 |                                                                                                 |
| Audio I/O                         | -                                                                                              |                                                                                                 |                                                                                                 |                                                                                                 |
| Video Compression                 | H.264, MJPEG                                                                                   |                                                                                                 |                                                                                                 |                                                                                                 |
| WiseStream                        | WiseStream II                                                                                  |                                                                                                 |                                                                                                 |                                                                                                 |
| Streaming                         | Up to 3 profiles                                                                               |                                                                                                 |                                                                                                 |                                                                                                 |
| Edge Storage                      | micro SD/SDHC 1slot 32GB                                                                       |                                                                                                 |                                                                                                 |                                                                                                 |
| Application Programming Interface | ONVIF Profile S/G/T<br>SUNAPI (HTTP API)                                                       |                                                                                                 |                                                                                                 |                                                                                                 |
| Operating Temperature / Humidity  | -10°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH                                                   | -30°C ~ +55°C (-22°F ~ +131°F) /<br>0~90% RH<br>* Start up should be done at above -20°C (-4°F) | -30°C ~ +55°C (-22°F ~ +131°F) /<br>0~90% RH<br>* Start up should be done at above -20°C (-4°F) | -30°C ~ +55°C (-22°F ~ +131°F) /<br>0~90% RH<br>* Start up should be done at above -20°C (-4°F) |
| Certification                     | -                                                                                              | IP66, IK 10                                                                                     | IP66, IK 10                                                                                     | IP66, IK 10                                                                                     |
| Power Consumption                 | Max 6.4W, Typical 5W                                                                           |                                                                                                 |                                                                                                 |                                                                                                 |
| Product Dimensions / Weight       | Ø119.8 x 98.8mm (Ø4.72" x 3.89")<br>315g (0.69lb)                                              | Ø120.3 x 91.7mm (Ø4.74" x 3.61")<br>410g (0.9lb)                                                | Ø120.3 x 91.7mm (Ø4.74" x 3.61")<br>410g (0.9lb)                                                | Ø137.8 x 106.1mm (Ø5.43" x 4.18")<br>525g (1.16lb)                                              |

# High performance NVR

High resolution and great efficiency.  
Quick and precise search enabled by  
Hanwha Vision NVR

Hanwha Vision's NVR allows recording and streaming of videos in super high resolution and enhanced the efficiency of event and channel management with the new UI. It also offers AI based quick and precise object detection and classification on top of smart search.



## Monitor all sub channels without registering them all

With the new Virtual Channel View, user can register only 1 main channel for recording and monitor sub channels without registering them to the NVR. In other words, no need to record every sub channel that needs to be simply streamed for live monitoring.

Registered channel  
Recording and monitoring

CAMERA A  
Channel #01

Using 1 channel on NVR  
(can monitor up to 4CH)

Unregistered channel  
Monitoring sub channels without recording

CAMERA A  
Channel  
#02

CAMERA A  
Channel #03

CAMERA A  
Channel #04

## Installation Wizard for easy auto recognition and setup

Local/web based installation wizard with a single UI provides easy and quick auto camera recognition and registration as well as configuration of each channel.



## Design your own monitoring channels with the Dynamic layout

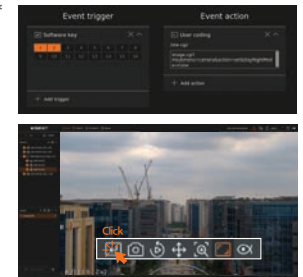
Dynamic layout allows users to freely customize the channel display. Set the best channel display and create the most intuitive monitoring environment.



## Code your own event action with SUNAPI command and Integrate with the Software Key

Users can code their own event action using SUNAPI commands and integrate it with the Software Key. Then, a simple click on the Software Key appears on the channel display will run the event action. Customized codes run separately.

- 1 Code event action\* and integrate with the Software key  
\* Simple focus, Day&Night (ICR), Alarm Out, etc.
- 2 Click the Software key to initiate the event action



# AI NVR

## AI enhances accuracy and efficiency

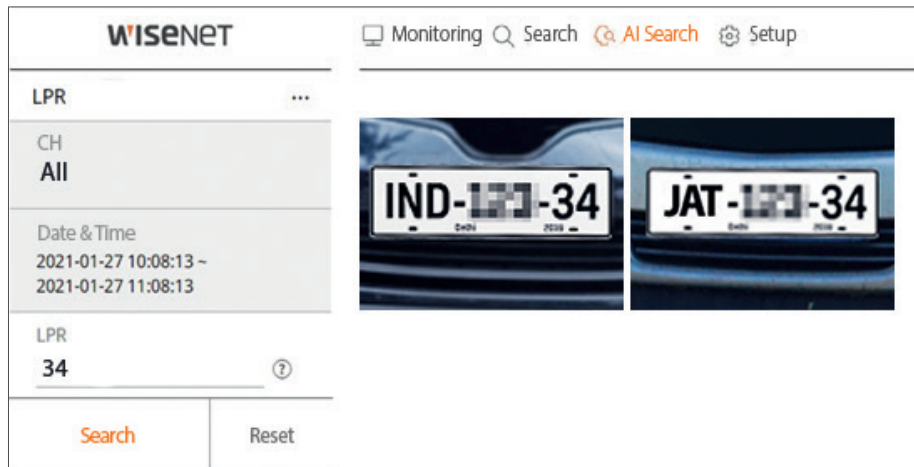
Hanwha AI NVR with AI algorithms provides accurate object detection/classification/search, increasing the efficiency of monitoring operation.



## License Plate Recognition LPR (Search)

Through OCR (Optical Character Recognition) processing, the BestShot images of the license plates are converted into machine-readable text and numbers then stored in the AI NVR in the form of digital data together with the images of license plates. Users can easily search license plates by typing in the numbers or characters of the license plate.

\* Attributes : People (Clothing colors for top and bottom/ Wearing or carrying a bag) / Face (Age group, gender, mask/glasses wearing) when integrated with Wisenet cameras, Vehicle (Types, colors) / License plate (Optical technology converts images into texts for storage, supporting search in text



When managing multi channels, the Hanwha's AI NVR greatly improves search efficiency by allowing users to preview images and videos by simply hovering mouse cursor on the timeline. Moreover, users can configure event and alarm for all channels within a single page.



## Live monitoring and bookmarks

With Live Monitoring, users can configure the split mode as desired to view video footage in real time or find information such as system malfunction, overload or recording status for each channel. In the PTZ control mode, users can click arrow keys to move the PTZ in eight directions or zoom in to a certain area for more detailed monitoring. With Bookmark feature, users can designate up to 100 events for easy and quick event search.



Live monitoring and PTZ control

Bookmark setup and event search



**PRN-6400DB4**  
64CH AI NVR



**PRN-3200B4**  
32CH AI NVR



**PRN-3200B2**  
32CH AI NVR



**PRN-1600B2**  
16CH AI NVR

|                           |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS                        | Linux                                                                                                                                                                       | Linux                                                                                                                                                                       | Linux                                                                                                                                                                       | Linux                                                                                                                                                                       |
| Supported Compression     | H.265, H.264, MJPEG                                                                                                                                                         |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
| Max. Recording Bit Rate   | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps {RAID mode}<br>Normal : Up to 400 Mbps<br>Degrade/ Rebuild : Up to 320 Mbps                               | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps<br>{RAID mode}<br>Normal : Up to 400 Mbps<br>Degrade/ Rebuild : Up to 320 Mbps                            | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps<br>{RAID mode}<br>Normal : Up to 400 Mbps<br>Degrade/ Rebuild : Up to 320 Mbps                            | Distributed mode : Up to 250 Mbps<br>Normal mode : Up to 150 Mbps<br>RAID mode : Up to 250 Mbps                                                                             |
| Max # of Cameras          | Max. 64CH                                                                                                                                                                   | Max. 32CH                                                                                                                                                                   | Max. 32CH                                                                                                                                                                   | Max. 16CH                                                                                                                                                                   |
| Network Camera Resolution | 32MP ~ CIF                                                                                                                                                                  | 32MP ~ CIF                                                                                                                                                                  | 32MP ~ CIF                                                                                                                                                                  | 32MP ~ CIF                                                                                                                                                                  |
| HDD Slot                  | SATA 16ea(Max. 160TB, Non-RAID mode),<br>Hot swap                                                                                                                           | SATA 16ea(Max. 160TB, Non-RAID mode),<br>Hot swap                                                                                                                           | SATA 8ea(Max. 80TB, Non-RAID mode)                                                                                                                                          | SATA 8ea(Max. 80TB, Non-RAID mode)                                                                                                                                          |
| Record Mode               | Normal, Dual Stream, Schedule<br>(Continuous/Event),<br>Event (Pre/Post), Bookmark                                                                                          | Normal, Dual Stream, Schedule<br>(Continuous/Event),<br>Event (Pre/Post), Bookmark                                                                                          | Normal, Dual Stream, Schedule(Continuous/Event), Event<br>(Pre/Post), Bookmark                                                                                              | Normal, Dual Stream, Schedule(Continuous/Event), Event<br>(Pre/Post), Bookmark                                                                                              |
| Event Trigger             | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event                                                           |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
| Event Action              | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor<br>Out, FTP,<br>SUNAPI Command, Shutdown                                                                         | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor<br>Out, FTP,<br>SUNAPI Command, Shutdown                                                                         | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor<br>Out, FTP,<br>SUNAPI Command, Shutdown                                                                         | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor<br>Out, FTP,<br>SUNAPI Command, Shutdown                                                                         |
| External Storage          | iSCSI                                                                                                                                                                       |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
| RAID                      | RAID-5/6(Array Size : 8 HDD x 2 Array)                                                                                                                                      | RAID-5/6(Array Size : 8 HDD x 2 Array)                                                                                                                                      | RAID-5/6(Single, 1 Array)                                                                                                                                                   | RAID-5/6(Single, 1 Array)                                                                                                                                                   |
| Hot Swap                  | Support                                                                                                                                                                     |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
| Network Viewer Software   | SSM, Webviewer, WAVE, WisenetViewer, Wisenet,<br>mobile CGI(SUNAPI) support for integration with 3rd party VMS                                                              |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |
| Local Monitor             | - Dynamic layout, Virtual channel view<br>- Clone Mode : Up to 64 Division<br>- Expand Mode : HDMI1 up to 36 Div.<br>HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9 | - Dynamic layout, Virtual channel view<br>- Clone Mode : Up to 36 Division<br>- Expand Mode : HDMI1 up to 36 Div.<br>HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9 | - Dynamic layout, Virtual channel view<br>- Clone Mode : Up to 36 Division<br>- Expand Mode : HDMI1 up to 36 Div.<br>HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9 | - Dynamic layout, Virtual channel view<br>- Clone Mode : Up to 16 Division<br>- Expand Mode : HDMI1 up to 16 Div.<br>HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9 |
| Network Camera Protocol   | Wisenet, ONVIF, RTSP                                                                                                                                                        | Wisenet, ONVIF, RTSP                                                                                                                                                        | Wisenet, ONVIF, RTSP                                                                                                                                                        | Wisenet, ONVIF, RTSP                                                                                                                                                        |
| Power Input               | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz (Dual SMPS)                                                                                                                               | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz                                                                                                                                           | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz, 2.1A                                                                                                                                     | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz, 2.1A                                                                                                                                     |
| Power Consumption         | Max. 285W (972.5 BTU with HDD 16ea)                                                                                                                                         | Max. 285W (972.5 BTU with HDD 16ea)                                                                                                                                         | SUNAPI, ONVIF                                                                                                                                                               | Max. 205W (With 10TB HDDs 8EA)                                                                                                                                              |
| PoE Budget                | -                                                                                                                                                                           | -                                                                                                                                                                           | -                                                                                                                                                                           | -                                                                                                                                                                           |
| Additional Features       | -                                                                                                                                                                           |                                                                                                                                                                             |                                                                                                                                                                             |                                                                                                                                                                             |





**XRN-6420DB4/B4**  
**64CH NVR**



**XRN-6410RB2**  
**64CH NVR**



**XRN-6410B2**  
**64CH NVR**

|                           |                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OS                        | Linux                                                                                                                                                                                                                                                                                                                                                                                  | Linux                                                                                                                                                                                                                                                                                                                                                     | Linux                                                                                                                                                                                                                                                                                               |
| Supported Compression     | H.265, H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                    | H.265, H.264, MJPEG                                                                                                                                                                                                                                                                                                                                       | H.265, H.264, MJPEG                                                                                                                                                                                                                                                                                 |
| Max. Recording Bit Rate   | Distributed mode : Up to 520 Mbps<br>Normal mode : Up to 300 Mbps<br>{RAID mode}<br>Normal : Up to 520 Mbps<br>Degradate/ Rebuild : Up to 520 Mbps                                                                                                                                                                                                                                     | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps<br>{RAID mode}<br>Normal : Up to 400 Mbps<br>Degradate/ Rebuild : Up to 320 Mbps                                                                                                                                                                                                        | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps                                                                                                                                                                                                                                   |
| Max of Cameras            | Max. 64CH                                                                                                                                                                                                                                                                                                                                                                              | Max. 64CH                                                                                                                                                                                                                                                                                                                                                 | Max. 64CH                                                                                                                                                                                                                                                                                           |
| Network Camera Resolution | 32MP ~ CIF                                                                                                                                                                                                                                                                                                                                                                             | 32MP ~ CIF                                                                                                                                                                                                                                                                                                                                                | 32MP ~ CIF                                                                                                                                                                                                                                                                                          |
| HDD Slot                  | SATA 16ea(Max. 160TB, Non-RAID mode),<br>Hot swap                                                                                                                                                                                                                                                                                                                                      | SATA 8ea(Max. 80TB, Non-RAID mode),<br>Hot swap                                                                                                                                                                                                                                                                                                           | SATA 8ea(Max. 80TB)                                                                                                                                                                                                                                                                                 |
| Record Mode               | Normal, Dual Stream, Schedule<br>(Continuous/Event),<br>Event (Pre/Post), Bookmark                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| Event Trigger             | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| Event Action              | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer,<br>Monitor Out, FTP, SUNAPI Command, Shutdown                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| External Storage          | iSCSI                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| RAID                      | RAID-5/6                                                                                                                                                                                                                                                                                                                                                                               | RAID-5/6                                                                                                                                                                                                                                                                                                                                                  | -                                                                                                                                                                                                                                                                                                   |
| Hot Swap                  | Support                                                                                                                                                                                                                                                                                                                                                                                | Support                                                                                                                                                                                                                                                                                                                                                   | -                                                                                                                                                                                                                                                                                                   |
| Network Viewer Software   | SSM, Webviewer, Wave, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI)<br>for integration to 3rd party VMS                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| Local Monitor             | - Dynamic layout, Virtual channel view<br>- Clone Mode : Up to 64 Division<br>- Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 32 Div.[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                     |
| Network Camera Protocol   | SUNAPI, ONVIF, RTSP                                                                                                                                                                                                                                                                                                                                                                    | Wisenet, ONVIF, RTSP                                                                                                                                                                                                                                                                                                                                      | Wisenet, ONVIF, RTSP                                                                                                                                                                                                                                                                                |
| Power Input               | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz, 2.7A<br>(Dual SMPS)                                                                                                                                                                                                                                                                                                                                 | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz, 1.7A<br>(Single SMPS)                                                                                                                                                                                                                                                                                                  | 100 ~ 240 VAC $\pm$ 10%; 50/60 Hz, 1.5A (Single SMPS)                                                                                                                                                                                                                                               |
| Power Consumption         | Max. 265W (904.2 BTU with HDD 16ea)                                                                                                                                                                                                                                                                                                                                                    | Max. 160W (with 10TB HDD 8EA)                                                                                                                                                                                                                                                                                                                             | Max. 138W (with 10TB HDD 8EA)                                                                                                                                                                                                                                                                       |
| PoE Budget                | -                                                                                                                                                                                                                                                                                                                                                                                      | -                                                                                                                                                                                                                                                                                                                                                         | -                                                                                                                                                                                                                                                                                                   |
| Additional Features       | <ul style="list-style-type: none"> <li>N+1 failover supported</li> <li>AI search (BestShot, Attribute)               <ul style="list-style-type: none"> <li>When integrated with Wisenet AI cameras</li> </ul> </li> <li>PTZ camera configuration and control</li> <li>Dual SMPS (6410DB4)</li> <li>Dynamic layout</li> <li>Virtual channel view</li> <li>Fisheye dewarping</li> </ul> | <ul style="list-style-type: none"> <li>N+1 failover supported</li> <li>AI search (BestShot, Attribute)               <ul style="list-style-type: none"> <li>When integrated with Wisenet AI cameras</li> </ul> </li> <li>PTZ camera configuration and control</li> <li>Dynamic layout</li> <li>Virtual channel view</li> <li>Fisheye dewarping</li> </ul> | <ul style="list-style-type: none"> <li>N+1 failover supported</li> <li>AI search (BestShot, Attribute)               <ul style="list-style-type: none"> <li>When integrated with Wisenet AI cameras</li> </ul> </li> <li>PTZ camera configuration and control</li> <li>Fisheye dewarping</li> </ul> |





**XRN-3220B4**  
**32CH AI NVR**



**XRN-3210RB2**  
**32CH NVR**



**XRN-3210B2**  
**32CH NVR**

|                           |                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                    |                                                                                                          |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| OS                        | Linux                                                                                                                                                                                                                                                                                                                                                                                       | Linux                                                                                                                                                              | Linux                                                                                                    |
| Supported Compression     | H.265, H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                         | H.265, H.264, MJPEG                                                                                                                                                | H.265, H.264, MJPEG                                                                                      |
| Max. Recording Bit Rate   | Distributed mode : Up to 520 Mbps<br>Normal mode : Up to 300 Mbps<br>{RAID mode}<br>Normal : Up to 520 Mbps<br>Degrade/ Rebuild : Up to 520 Mbps                                                                                                                                                                                                                                            | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps<br>{RAID mode}<br>Normal : Up to 400 Mbps<br>Degrade/ Rebuild : Up to 320 Mbps                   | Distributed mode : Up to 400 Mbps<br>Normal mode : Up to 150 Mbps                                        |
| Max of Cameras            | Max. 32CH                                                                                                                                                                                                                                                                                                                                                                                   | Max. 32CH                                                                                                                                                          | Max. 32CH                                                                                                |
| Network Camera Resolution | 32MP ~ CIF                                                                                                                                                                                                                                                                                                                                                                                  | 32MP ~ CIF                                                                                                                                                         | 32MP ~ CIF                                                                                               |
| HDD Slot                  | SATA 16ea(Max. 160TB, Non-RAID mode)                                                                                                                                                                                                                                                                                                                                                        | SATA 8ea(Max. 80TB, Non-RAID mode)                                                                                                                                 | SATA 8ea(Max. 80TB)                                                                                      |
| Record Mode               | Normal, Dual Stream, Schedule(Continuous/Event),<br>Event (Pre/Post), Bookmark                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                    |                                                                                                          |
| Event Trigger             | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio),<br>Dynamic Event, User Event                                                                                                                                                                                                                                                                        | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio),<br>Dynamic Event, User Event                                               | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio),<br>Dynamic Event |
| Event Action              | e-Mail, Event Push, PTZ Preset, Alarm Out,<br>Buzzer, Monitor Out, FTP,<br>SUNAPI Command, Shutdown                                                                                                                                                                                                                                                                                         | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer,<br>Monitor Out, FTP,<br>SUNAPI Command, Shutdown                                                                | e-Mail, Event Push, PTZ Preset, Alarm Out,<br>Buzzer, Monitor Out, FTP,<br>SUNAPI Command, Shutdown      |
| External Storage          | iSCSI                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                    |                                                                                                          |
| RAID                      | RAID-5/6                                                                                                                                                                                                                                                                                                                                                                                    | RAID-5/6                                                                                                                                                           | -                                                                                                        |
| Hot Swap                  | Support                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    |                                                                                                          |
| Network Viewer Software   | SSM, Webviewer, WAVE, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI)<br>for integration to 3rd party VMS                                                                                                                                                                                                                                                                               |                                                                                                                                                                    |                                                                                                          |
| Local Monitor             | Dynamic layout, Virtual channel view<br>Clone Mode : Up to 32 Division<br>Expand Mode : HDMI1 up to 32 Div, HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9                                                                                                                                                                                                                          | Dynamic layout, Virtual channel view<br>Clone Mode : Up to 64 Division<br>Expand Mode : HDMI1 up to 32 Div, HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9 | 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9/ 13/ 16/ 25/ 36/ Sequence<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9                   |
| Network Camera Protocol   | SUNAPI, ONVIF, RTSP                                                                                                                                                                                                                                                                                                                                                                         | SUNAPI, ONVIF, RTSP                                                                                                                                                | SUNAPI, ONVIF, RTSP                                                                                      |
| Power Input               | 100 ~ 240 VAC $\pm$ 10%: 50/60Hz, 2.7A (Single SMPS)                                                                                                                                                                                                                                                                                                                                        | 100 ~ 240 VAC $\pm$ 10%: 50/60Hz, 1.7A (Single SMPS)                                                                                                               | 100 ~ 240 VAC $\pm$ 10%: 50/60Hz, 1.5A (Single SMPS)                                                     |
| Power Consumption         | Max. 265W (904.2 BTU with HDD 16ea)                                                                                                                                                                                                                                                                                                                                                         | Max. 160W (with 10TB HDD 8EA)                                                                                                                                      | Max. 138W (with 10TB HDD 8EA)                                                                            |
| PoE Budget                | -                                                                                                                                                                                                                                                                                                                                                                                           | -                                                                                                                                                                  | -                                                                                                        |
| Additional Features       | <ul style="list-style-type: none"> <li>N+1 failover supported</li> <li>AI search (BestShot, Attribute)</li> </ul> - When integrated with Wisenet AI cameras <ul style="list-style-type: none"> <li>PTZ camera configuration and control               <ul style="list-style-type: none"> <li>Dynamic layout</li> <li>Virtual channel view</li> <li>Fisheye dewarping</li> </ul> </li> </ul> |                                                                                                                                                                    |                                                                                                          |



**XRN-1620SB1  
16CH NVR**



**XRN-1620B2  
16CH NVR**



**XRN-820S  
8CH NVR**



**XRN-420S  
4CH NVR**



**XRN-426S-1T  
4CH AI NVR**

| OS                        | Linux                                                                                                                                                                                                                                     | Linux                                                                                                                                                        | Linux                                                                                                                                      | Linux                                                | Linux                                                                        |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------|
| Supported Compression     | H.265, H.264, MJPEG                                                                                                                                                                                                                       | H.265, H.264, MJPEG                                                                                                                                          | H.265, H.264, MJPEG                                                                                                                        | H.265, H.264, MJPEG                                  | H.265, H.264, MJPEG                                                          |
| Max. Recording Bit Rate   | Max. 140Mbps                                                                                                                                                                                                                              | Max. 140Mbps                                                                                                                                                 | Max. 120Mbps                                                                                                                               | Max. 50Mbps                                          | Max. 40Mbps                                                                  |
| Max # of Cameras          | Max. 16CH                                                                                                                                                                                                                                 | Max. 16CH                                                                                                                                                    | Max. 8CH                                                                                                                                   | Max. 4CH                                             | Max. 4CH                                                                     |
| Network Camera Resolution | 32MP ~ CIF                                                                                                                                                                                                                                | 32MP ~ CIF                                                                                                                                                   | 32MP ~ CIF                                                                                                                                 | 8MP ~ CIF                                            | 8MP ~ CIF                                                                    |
| HDD Slot                  | SATA 4ea(Max. 24TB)                                                                                                                                                                                                                       | SATA 8ea(Max. 80TB)                                                                                                                                          | SATA 2ea(Max. 12TB)                                                                                                                        | SATA 1ea(Max. 6TB)                                   | M.2 SSD 1EA                                                                  |
| Record Mode               | Normal, Dual Stream, Schedule(Continuous/Event), Event (Pre/Post), Bookmark                                                                                                                                                               |                                                                                                                                                              |                                                                                                                                            |                                                      |                                                                              |
| Event Trigger             | Alarm Input, Video Loss, Camera Event (Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event                                                                                                                            |                                                                                                                                                              |                                                                                                                                            |                                                      |                                                                              |
| Event Action              | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown                                                                                                                                             |                                                                                                                                                              |                                                                                                                                            |                                                      |                                                                              |
| External Storage          | -                                                                                                                                                                                                                                         | -                                                                                                                                                            | -                                                                                                                                          | -                                                    | -                                                                            |
| RAID                      | RAID-1                                                                                                                                                                                                                                    | -                                                                                                                                                            | RAID-1                                                                                                                                     | -                                                    | -                                                                            |
| Hot Swap                  | -                                                                                                                                                                                                                                         | -                                                                                                                                                            | -                                                                                                                                          | -                                                    | -                                                                            |
| Network Viewer Software   | WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI) for integration to 3'rd party VMS                                                                                                               |                                                                                                                                                              |                                                                                                                                            |                                                      |                                                                              |
| Local Monitor             | Dynamic layout, Virtual channel view<br>Clone mode : Up to 16 Division<br>Expand mode : Up to 9 Division[Web] 1/ 2H/<br>2V/ 3V/ 4/ 6/ 8/ 9                                                                                                | Dynamic layout, Virtual channel view<br>Clone mode : Up to 16 Division<br>Expand mode : Up to 9 Division[Web] 1/ 2H/<br>2V/ 3V/ 4/ 6/ 8/ 9<br>1HDMI and 1VGA | Dynamic layout, Virtual channel view<br>Clone mode : Up to 16 Division<br>Expand mode : Up to 9 Division[Web] 1/ 2H/<br>2V/ 3V/ 4/ 6/ 8/ 9 | 1/ 2V/ 2H/ 3V/ 4/ Sequence<br>[Web] 1/ 2V/ 2H/ 3V/ 4 | Dynamic layout, Virtual channel view, Up to 4<br>Div. [Web] 1/ 2H/ 2V/ 3V/ 4 |
| Network Camera Protocol   | SUNAPI, ONVIF, RTSP                                                                                                                                                                                                                       | SUNAPI, ONVIF, RTSP                                                                                                                                          | SUNAPI, ONVIF, RTSP                                                                                                                        | SUNAPI, ONVIF, RTSP                                  | SUNAPI, ONVIF, RTSP                                                          |
| Power Input               | 100 ~ 240 VAC ± 10%; 50/60 Hz                                                                                                                                                                                                             | 100 ~ 240 VAC ± 10%; 50/60 Hz                                                                                                                                | 100 ~ 240 VAC ± 10%; 50/60 Hz                                                                                                              | 100 ~ 240 VAC ± 10%; 50/60 Hz                        | 54VDC / 1.67A                                                                |
| Power Consumption         | Max. 310W                                                                                                                                                                                                                                 | 130W                                                                                                                                                         | Max 160W                                                                                                                                   | Max 67W(1HDD, PoE On)                                | Max 68W(PoE On)                                                              |
| PoE Budget                | 200W                                                                                                                                                                                                                                      | -                                                                                                                                                            | 100W                                                                                                                                       | 50W                                                  | 50W                                                                          |
| Additional Features       | <ul style="list-style-type: none"> <li>PoE supported</li> <li>N+1 failover supported</li> <li>AI search (BestShot, Attribute)</li> <li>- When integrated with Wisenet AI cameras</li> <li>PTZ camera configuration and control</li> </ul> |                                                                                                                                                              |                                                                                                                                            |                                                      |                                                                              |



**QRN-1630S**  
16CH NVR



**QRN-830S**  
8CH NVR

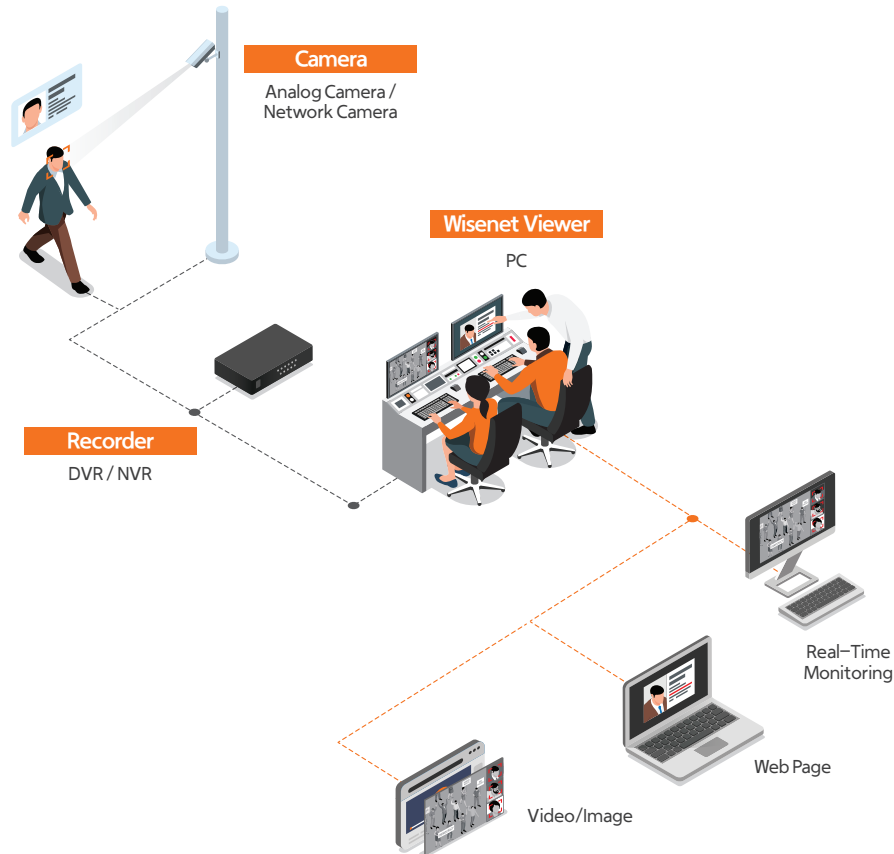


**QRN-430S**  
4CH NVR

| OS                        | Linux                                                                                                                                                                                                                                                                      | Linux                                                                                               | Linux                                                             |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Supported Compression     | H.265, H.264, MJPEG                                                                                                                                                                                                                                                        | H.265, H.264, MJPEG                                                                                 | H.265, H.264, MJPEG                                               |
| Max. Recording Bit Rate   | Max. 128Mbps                                                                                                                                                                                                                                                               | Max. 80Mbps                                                                                         | Max. 40Mbps                                                       |
| Max of Cameras            | Max. 16CH                                                                                                                                                                                                                                                                  | Max. 8CH                                                                                            | Max. 4CH                                                          |
| Network Camera Resolution | 8MP ~ CIF                                                                                                                                                                                                                                                                  | 8MP ~ CIF                                                                                           | 8MP ~ CIF                                                         |
| HDD Slot                  | SATA 2ea(Max. 20TB)                                                                                                                                                                                                                                                        | SATA 1ea(Max. 6TB)                                                                                  | SATA 1ea(Max. 6TB)                                                |
| Record Mode               | Normal, Dual Stream, Schedule(Continuous/Event),<br>Event (Pre/Post), Bookmark                                                                                                                                                                                             |                                                                                                     |                                                                   |
| Event Trigger             | Alarm Input, Video Loss, Camera Event<br>(Sensor, MD, Video Analytics, Defocus, Audio),<br>Dynamic Event, User Event                                                                                                                                                       |                                                                                                     |                                                                   |
| Event Action              | "e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP,<br>SUNAPI Command, Shutdown"                                                                                                                                                                         | e-Mail, Event Push, PTZ Preset, Alarm Out,<br>Buzzer, Monitor Out, FTP,<br>SUNAPI Command, Shutdown | e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer,<br>Monitor Out |
| External Storage          | -                                                                                                                                                                                                                                                                          | -                                                                                                   | -                                                                 |
| RAID                      | -                                                                                                                                                                                                                                                                          | -                                                                                                   | -                                                                 |
| Hot Swap                  | -                                                                                                                                                                                                                                                                          | -                                                                                                   | -                                                                 |
| Network Viewer Software   | WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet mobile<br>Support CGI(SUNAPI) for integration to 3rd party VMS                                                                                                                                                               |                                                                                                     |                                                                   |
| Local Monitor             | Clone Mode : Dynamic layout<br>Expand Mode : HDMI1 Dynamic layout,<br>HDMI2 up to 16 Div.<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9                                                                                                                                               | Dynamic layout<br>[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9                                                   | 1/ 2V/ 2H/ 3V/ 4/ Sequence<br>[Web] 1/ 2V/ 2H/ 3V/ 4              |
| Network Camera Protocol   | SUNAPI, ONVIF                                                                                                                                                                                                                                                              | SUNAPI, ONVIF                                                                                       | SUNAPI, ONVIF                                                     |
| Power Input               | 100 ~ 240 VAC ± 10%; 50/60Hz                                                                                                                                                                                                                                               | 54VDC / 1.55A                                                                                       | 100 ~ 240 VAC ± 10%; 50/60Hz                                      |
| Power Consumption         | Max. 200W(682 BTU with 2HDD, PoE ON)                                                                                                                                                                                                                                       | Max 84W (287 BTU with 1HDD, PoE ON)                                                                 | Max 52W(1HDD, PoE On)                                             |
| PoE Budget                | 130W                                                                                                                                                                                                                                                                       | 65W                                                                                                 | 35W                                                               |
| Additional Features       | <ul style="list-style-type: none"> <li>• PoE supported</li> <li>• N+1 failover supported</li> <li>• ARB (Auto Recovery Backup) redundancy supported</li> <li>• PTZ camera configuration and control</li> <li>• Easy configuration (Setup Wizard, P2P (QR Code))</li> </ul> |                                                                                                     |                                                                   |

# Wisenet Viewer

Costless yet powerful NVR·DVR Management Software

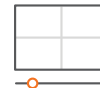


Available on Windows, macOS, Linux

## Monitoring with PC gets easier

- Supports multiple OS (Windows, macOS, Linux)
- Flexible channel division and custom layout
- AI search (Person, Face, Vehicle, LPR)
- Fisheye de-warping
- Displays web pages (ex. NVR web-viewer) and video tutorials
- Allows videos to be directly saved to PC
- Event trigger and action rule management
- Remote connection (DDNS/P2P)

## Effective monitoring with essential features



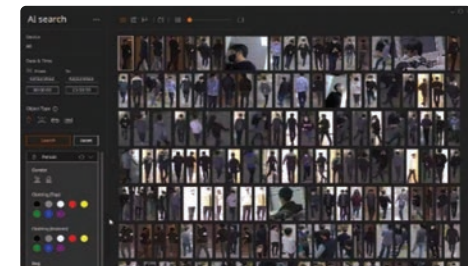
**Customizable** channel layout & Timeline



Easy monitoring with **Fisheye De-warping**



Intelligent monitoring powered by **AI Search**



## Encoder



**SPE-1630**  
**16CH Encoder**



**SPE-420**  
**4CH Encoder**

|                                   |                                                                                 |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Max. # of Cameras                 | 16                                                                              | 4                                                                               |
| Supported Compression             | H.265 / H.264, MJPEG                                                            | H.265 / H.264, MJPEG                                                            |
| Max. Resolution                   | 5MP/4MP/1080p/720p/WD1/4CIF/CIF                                                 | 5MP/4MP/1080p/720p/WD1/4CIF/CIF                                                 |
| Max. Frame Rate per Channel       | 5MP: 12fps/CH, 4MP: 15fps/CH, 1080p/720p/WD1/4CIF/CIF: 30fps/CH(N), 25fps/CH(P) | 5MP: 12fps/CH, 4MP: 15fps/CH, 1080p/720p/WD1/4CIF/CIF: 30fps/CH(N), 25fps/CH(P) |
| Bi-Directional Audio              | Support                                                                         | Support                                                                         |
| RS-485                            | Support                                                                         | Support                                                                         |
| Alarm I/O                         | 4 / 1                                                                           | 4 / 2                                                                           |
| Application Programming Interface | ONVIF profile S, SUNAPI                                                         | ONVIF profile S, SUNAPI                                                         |
| Power                             | MAX : 20W (12V, 1.67A)                                                          | MAX : 5W (PoE & 12VDC)                                                          |

## Decoder



**SPD-152**  
**1 Monitor Decoder**

|                     |                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------|
| Video Out           | HDMI (2ea)                                                                                                        |
| Resolution          | HDMI#1 up to 4K,<br>HDMI#2 up to 1080p                                                                            |
| Display             | Max. 64ch decoding<br>Decoding performance : 8M@60fps, 2M@360fps<br>Network Camera Protocols: SUNAPI, ONVIF, RTSP |
| Power               | Dual Power : 12VDC, PoE (IEEE802.3af)                                                                             |
| Additional Features | Multi adapter for monitor back mount (VESA)                                                                       |

# Wisenet WAVE

## Video Management System

### Intuitive and Easy to Use

- An intuitive 'drag & drop' tool makes it extremely easy for operators to set up a display of live and recorded images on a single screen or video wall, with customizable layouts and sizes.
- Zoom windows which, with just simple clicks of a mouse, enables operators to zoom in to see close up detail of any suspicious activity.
- Motion detection and video analytics support can be configured to generate alerts when user defined incidents occur.
- A wide range of smart, keyword, calendar and preview search options facilitate rapid retrieval of recorded video.

Wisenet WAVE targets the needs of projects in the mid-market with an emphasis on simplified user experience.

### An Operating System to Suit Your Needs

Wisenet WAVE has applications for all major operating systems so our users are not limited by what device or operating system they choose to use on their desktops, mobile devices, rack mount servers, or even low-powered embedded devices. (For embedded devices, please contact Hanwha Vision Support)



WAVE Sync

A cloud-based service that enables simple, centralized remote access and insight into any Wisenet WAVE system.



Desktop

A rich media player designed to view and manage a single Wisenet WAVE system from a desktop or laptop PC.



Mobile

A mobile app designed for viewing Wisenet WAVE system video and archives while on-the-go.



Server

A media server responsible for discovering, connecting to, and managing system devices and data.

| Supported Browsers | Desktop OS Support | Mobile OS Support | Server OS Support |
|--------------------|--------------------|-------------------|-------------------|
| Google Chrome      | Microsoft Windows  | Google Android    | Microsoft Windows |
| Mozilla Firefox    | Ubuntu Linux       | Apple iOS         | Ubuntu Linux      |
| Opera / Opera Neon | Apple macOS        |                   |                   |
| Microsoft Edge     |                    |                   |                   |
| Apple Safari       |                    |                   |                   |

## Cloud

### Wisenet WAVE Sync Simplifies Everything

A cloud-based service which can be remotely accessed by an unlimited number of authorized users from anywhere in the world.

### Setup in Seconds

- Step 1: Create Wisenet WAVE Sync Account  
 Step 2: Link your System to Wisenet WAVE Sync  
 Step 3: Connect, View and Manage from anywhere



# Wisenet WAVE

## Desktop

### The Ultimate Flexibility

Wisenet WAVE offers a wide range of options to allow users to choose how and where to manage their video surveillance systems with minimal hardware requirements. Wisenet WAVE is offered as software which can be installed onto a user's desktop running Windows, Linux or Apple devices.



## Mobile

### Smart Phone. Smart Video.

A mobile app provides the opportunity to remotely access the key functions of Wisenet WAVE from a smart device to enable 'on-the-road' users to view and respond to any incidents captured by connected cameras.



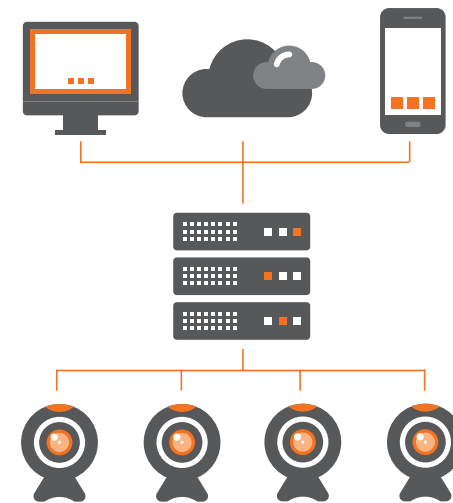
## Server

### Lightweight. Powerful. Server Hive.

The Wisenet WAVE server application is the foundation of the entire platform - with the ability to operate alone or as one part of a hive.

Wisenet WAVE is available as a downloadable software application from the **Hanwha Vision** website which enables the installers to easily and effortlessly install and configure.

The supporting web-based application enables each Wisenet WAVE platform to be managed as a stand alone system or as part of a larger, scalable video management solution. The application also provides an audit trail, real-time health monitoring and camera failover support, as well as reports on server health and storage status.



### Server Hive

Connect to any Server w/ any Client

- Instant synchronization
- No single point of failure
- Automatic failover
- One-click upgrades



# IP Audio System

IP audio meets  
network surveillance system for  
better safety and operational  
efficiency in daily life.



 Motion Detection

 Please stay away from the fence



**TTS**  
Text To Speech



**PoE & PoE+**  
Dual Support +



**SIP**  
PBX integration



**Scheduler**  
Day, Week, Month and Year





## IP Speakers



\* US only

**SPA-C110B/SPA-C110W**  
Ceiling Speaker



**SPA-P100B/SPA-P100W**  
Pendant speaker



**SPA-W100B / SPA-W100W**  
Wall speaker



**SPA-H100B/SPA-H100W**  
Horn speaker

|                           |                                                           |             |             |              |
|---------------------------|-----------------------------------------------------------|-------------|-------------|--------------|
| Amplifier                 | Built in 10W Class D                                      |             |             |              |
| Ethernet                  | 10/100 Base-T                                             |             |             |              |
| Internal Memory           | 1 GBytes                                                  |             |             |              |
| Max. Sound Pressure Level | 100dB                                                     | 101dB       | 101dB       | 125dB        |
| Frequency Range (-10dB)   | 120Hz~20kHz                                               | 130Hz~20kHz | 120Hz~20kHz | 650Hz~5.3kHz |
| Sensitivity (1Watt)       | 90dB                                                      | 91dB        | 91dB        | 111dB        |
| Power                     | PoE/ PoE+                                                 |             |             |              |
| TTS                       | Korean, English(US, UK), German, French, Spanish, Russian |             |             |              |

## IP Audio Module



**SPA-D1000**  
Audio Module

|                 |                      |
|-----------------|----------------------|
| Amplifier       | Built in 10W Class D |
| Ethernet        | 10/100 Base-T        |
| Internal Memory | 1 GBytes             |

## IP Audio Server



**SPA-S1000**  
Audio Server

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Ethernet              | 100/1000 Base-T                                  |
| Power                 | AC 120~240V, 50/60Hz, 10W DC 24V, 350mA          |
| Functional Monitoring | Connection verification, Built-in system logging |

## SIP Microphone



**SPA-M2000**  
SIP Microphone

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| Ethernet              | 10/100 Base-T                                            |
| Input Sensitivity     | -50dBV ± 3dB (Mic Volume Max)                            |
| Frequency Response    | 100Hz ~ 6kHz                                             |
| Power                 | PoE (IEEE 802.3 af type 1 Class 3), PoE+ Max. 12W, DC24V |
| Fuction               | Connection verification, Built-in system logging         |
| Operating Temperature | -10 ~ +40°C (+14° F ~ +104° F)                           |
| Operating Humidity    | 10~95% RH (Non-Condensing)                               |

## IP Audio Bridge



**SPA-B1000**  
IP Audio Bridge

|                       |                               |
|-----------------------|-------------------------------|
| Ethernet              | 10/100 Base-T                 |
| Operating Temperature | -20 ~ +50°C (-4° F ~ +122° F) |
| Operating Humidity    | 10~85% RH (Non-Condensing)    |



**HCB-7000A**  
QHD Box Camera



**HCO-7070RA**  
QHD IR Bullet Camera



**HCO-7010RA/20RA/30RA**  
QHD IR Bullet Camera



**HCD-7070RA**  
QHD IR Dome Camera



**HCD-7010RA/20RA/30RA**  
QHD IR Dome Camera

|                             |                                                                                               |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
|-----------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device              | 1/3" CMOS                                                                                     |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Resolution                  | 2560 x 1440                                                                                   |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Min. Illumination           | Color: 0.16Lux (F1.2)<br>B/W: 0.009Lux (F1.2)                                                 | Color: 0.16Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                           | Color: 0.26Lux (F1.8) (HCO-7010R)<br>0.27Lux (F2.0) (HCO-7020R/7030R)<br>B/W: 0Lux (IR LED on)                                                      | Color: 0.16Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                           | Color: 0.26Lux (F1.8) (HCD-7010RA)<br>0.27Lux (F2.0) (HCD-7020R/7030RA)<br>B/W: 0Lux (IR LED on)                                                    |
| Focal Length                | —                                                                                             | 3.2 ~ 10mm (3.1x)<br>varifocal                                                                           | 2.8mm fixed (HCO-7010R)<br>4.0mm fixed (HCO-7020R)<br>6.0mm fixed (HCO-7030R)                                                                       | 3.2 ~ 10mm (3.1x)<br>varifocal                                                                           | 2.8mm fixed (HCD-7010RA)<br>4.0mm fixed (HCD-7020RA)<br>6.0mm fixed (HCD-7030RA)                                                                    |
| Angular Field of View       | —                                                                                             | H: 93.48° (Wide) ~ 29.44° (Tele)<br>V: 50.47° (Wide) ~ 16.64° (Tele)<br>D: 112.53° (Wide) ~ 33.7° (Tele) | H: 107.48° / V: 59.67° / D: 122.01° (HCO-7010RA)<br>H: 78.22° / V: 41.21° / D: 87.91° (HCO-7020RA)<br>H: 49.01° / V: 27.61° / D: 55.6° (HCO-7030RA) | H: 93.48° (Wide) ~ 29.44° (Tele)<br>V: 50.47° (Wide) ~ 16.64° (Tele)<br>D: 112.53° (Wide) ~ 33.7° (Tele) | H: 107.48° / V: 59.67° / D: 122.01° (HCD-7010RA)<br>H: 78.22° / V: 41.21° / D: 87.91° (HCD-7020RA)<br>H: 49.02° / V: 27.61° / D: 55.6° (HCD-7030RA) |
| Pan / Tilt / Rotate         | —                                                                                             | —                                                                                                        | —                                                                                                                                                   | 0° ~ 350° / 0° ~ 63° / 0° ~ 355°                                                                         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                                                                    |
| IR Viewable Length          | —                                                                                             | 30m (98.43ft)                                                                                            | 20m (65.62ft) (HCO-7010R)<br>25m (82.02ft) (HCO-7020R)<br>30m (98.43ft) (HCO-7030R)                                                                 | 20m (65.62ft)                                                                                            | 20m (65.62ft) (HCD-7010RA)<br>25m (82.02ft) (HCD-7020RA)<br>30m (98.43ft) (HCD-7030RA)                                                              |
| Day & Night                 | Auto (ICR)                                                                                    |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Backlight Compensation      | BLC/HLC/DWDR                                                                                  |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Digital Noise Reduction     | 2D DNR                                                                                        |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Motion detection            | Support                                                                                       |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Privacy Masking             | 2 Zones                                                                                       |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |
| Alarm I/O                   | 0/1                                                                                           | 0/1                                                                                                      | 0/0                                                                                                                                                 | 0/1                                                                                                      | 0/0                                                                                                                                                 |
| Protocol                    | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)<br>RS-485: Samsung T, Pelco D/P | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                            | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                                                                       | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                            | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                                                                       |
| Operating Temperature       | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                             | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                      | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                                                                 | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                        | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                                                                   |
| Certification               | —                                                                                             | IP66, IK10                                                                                               | IP66, IK10                                                                                                                                          | —                                                                                                        | —                                                                                                                                                   |
| Power Consumption           | 12VDC & 24VAC: Max 3.6W                                                                       | 12VDC & 24VAC: Max 5.8W                                                                                  | 12VDC: Max 5W                                                                                                                                       | 12VDC & 24VAC: Max 5.8W                                                                                  | 12VDC: Max 5W                                                                                                                                       |
| Dimensions (WxHxD) / Weight | W 59.6 x H 68.4 x D 92.7mm<br>(2.35" x 2.69" x 3.65")<br>186g (0.41lb)                        | Ø 78 x 259.8mm<br>(Ø 3.07" x 10.23")<br>(Without sunshield)<br>914g (2.02lb)                             | Ø 70 x 246mm<br>(Ø 2.76" x 9.69")<br>(Without sunshield)<br>670g (1.48lb)                                                                           | Ø 119.8 x 98.5mm<br>(Ø 4.72" x 3.88")<br>320g (0.71lb)                                                   | Ø 110.1 x 86.1mm<br>(Ø 4.33" x 3.39")<br>240g (0.53lb)                                                                                              |
| Additional Features         | Video Transmission up to 500m<br>(5C2V Coaxial Cable)                                         |                                                                                                          |                                                                                                                                                     |                                                                                                          |                                                                                                                                                     |



**HCV-7070RA**  
QHD IR Vandal Dome Camera



**HCV-7010RA/20RA/30RA**  
QHD IR Vandal Dome Camera



**HCB-6001**  
1080p HD Box Camera



**HCB-6000**  
1080p HD Box Camera



**HCO-6080R**  
1080p HD IR Bullet Camera

|                             |                                                                                                          |                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                                       |
|-----------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Imaging Device              | 1/3" CMOS                                                                                                | 1/3" CMOS                                                                                                                                        | 1/2.8" CMOS                                                                                                                                                                                           | 1/2.8" CMOS                                                                                                                                                                                           | 1/2.8" CMOS                                                                                                           |
| Resolution                  | 2560 x 1440                                                                                              | 2560 x 1440                                                                                                                                      | 1920 x 1080                                                                                                                                                                                           | 1920 x 1080                                                                                                                                                                                           | 1920 x 1080                                                                                                           |
| Min. Illumination           | Color: 0.16Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                           | Color: 0.26Lux (F1.8) (HCV-7010R)<br>0.27Lux (F2.0) (HCV-7020R/7030R)<br>B/W: 0Lux (IR LED on)                                                   | Color: 0.09Lux (F1.2)<br>B/W: 0.009Lux (F1.2)                                                                                                                                                         | Color: 0.09Lux (F1.2)<br>B/W: 0.009Lux (F1.2)                                                                                                                                                         | Color: 0.11Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                                        |
| Focal Length                | 3.2 ~ 10mm (3.1x)<br>varifocal                                                                           | 2.8mm fixed (HCV-7010R)<br>4.0mm fixed (HCV-7020R)<br>6.0mm fixed (HCV-7030R)                                                                    | —                                                                                                                                                                                                     | —                                                                                                                                                                                                     | 3.2 ~ 10mm (3.1x)<br>motorized varifocal                                                                              |
| Angular Field of View       | H: 93.48° (Wide) ~ 29.44° (Tele)<br>V: 50.47° (Wide) ~ 16.64° (Tele)<br>D: 112.53° (Wide) ~ 33.7° (Tele) | H: 107.48° / V: 59.67° / D: 122.01° (HCV-7010R)<br>H: 78.22° / V: 41.21° / D: 87.91° (HCV-7020R)<br>H: 49.01° / V: 27.61° / D: 55.6° (HCV-7030R) | —                                                                                                                                                                                                     | —                                                                                                                                                                                                     | H: 110.2° (Wide) ~ 32° (Tele)<br>V: 55.4° (Wide) ~ 18° (Tele)<br>D: 128.4° (Wide) ~ 36.6° (Tele)                      |
| Pan / Tilt / Rotate         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                                                                 | —                                                                                                                                                                                                     | —                                                                                                                                                                                                     | —                                                                                                                     |
| IR Viewable Length          | 30m (98.43ft)                                                                                            | 20m (65.62ft) (HCV-7010R)<br>25m (82.02ft) (HCV-7020R)<br>30m (98.43ft) (HCV-7030R)                                                              | —                                                                                                                                                                                                     | —                                                                                                                                                                                                     | 30m (98.43ft)                                                                                                         |
| Day & Night                 | Auto (ICR)                                                                                               |                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                                       |
| Backlight Compensation      | BLC / HLC / DWDR                                                                                         | BLC/HLC/DWDR                                                                                                                                     | WDR (120dB)                                                                                                                                                                                           | WDR (120dB)                                                                                                                                                                                           | WDR (120dB)                                                                                                           |
| Digital Noise Reduction     | 2D DNR                                                                                                   | 2D DNR                                                                                                                                           | SSNRIV                                                                                                                                                                                                | SSNRIV                                                                                                                                                                                                | SSNRIV                                                                                                                |
| Motion detection            | Support                                                                                                  |                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                                       |
| Privacy Masking             | 2 Zones                                                                                                  | 2 Zones                                                                                                                                          | 4 Zones                                                                                                                                                                                               | 8 Zones                                                                                                                                                                                               | 8 Zones                                                                                                               |
| Alarm I/O                   | MD Output 1                                                                                              |                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                                       |
| Protocol                    | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                            | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron)                                                                                    | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol),<br>RS-485: Samsung T, Pelco D/P,<br>Panasonic, Bosch, Honeywell, Vicon, GE, AD | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol),<br>RS-485: Samsung T, Pelco D/P,<br>Panasonic, Bosch, Honeywell, Vicon, GE, AD | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol) |
| Operating Temperature       | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                      | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                                                              | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                                                                                                                     | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                                                                                                                     | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                                   |
| Certification               | IP66, IK10                                                                                               | IP66, IK10                                                                                                                                       | —                                                                                                                                                                                                     | —                                                                                                                                                                                                     | IP66, IK10                                                                                                            |
| Power Consumption           | 12VDC & 24VAC: Max 5.8W                                                                                  | 12VDC: Max 5W                                                                                                                                    | 12VDC & 24VAC: Max 6W                                                                                                                                                                                 | 12VDC & 24VAC: Max 3.5W                                                                                                                                                                               | 12VDC & 24VAC: Max 5.8W                                                                                               |
| Dimensions (WxHxD) / Weight | Ø137 × 106.1mm<br>(Ø5.39" × 4.18")<br>715g (1.58lb)                                                      | Ø120.3 × 91.7mm<br>(Ø4.74" × 3.61")<br>510g (1.12lb)                                                                                             | W 130.9 × H 73.1 × D 67.2mm<br>(5.15" × 2.88" × 2.65")<br>287g (0.63lb)                                                                                                                               | W 68.4 × H 59.6 × D 92.7mm<br>(2.69" × 2.35" × 3.65")<br>186g (0.41lb)                                                                                                                                | Ø78 × 259.8mm<br>(Ø3.07" × 10.23")<br>(Without sunshield)<br>948g (2.09lb)                                            |
| Additional Features         | Video Transmission up to 500m<br>(5C2V Coaxial Cable), Simple Focus (HCD-6080R, HCB-6001)                |                                                                                                                                                  |                                                                                                                                                                                                       |                                                                                                                                                                                                       |                                                                                                                       |



**HCO-6070R**  
1080p HD IR Bullet Camera



**HCO-6020R**  
1080p HD IR Bullet Camera



**HCD-6080R/6070R**  
1080p HD IR Dome Camera



**HCD-6020R**  
1080p HD IR Dome Camera

|                             |                                                                                                                       |                                                                            |                                                                                                  |                                                  |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Imaging Device              | 1/2.8" CMOS                                                                                                           |                                                                            |                                                                                                  |                                                  |
| Resolution                  | 1920 x 1080                                                                                                           |                                                                            |                                                                                                  |                                                  |
| Min. Illumination           | Color: 0.11Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                                        | Color: 0.17Lux (F1.6)<br>B/W: 0Lux (IR LED on)                             | Color: 0.11Lux (F1.6)<br>B/W: 0Lux (IR LED on)                                                   | Color: 0.17Lux (F1.6)<br>B/W: 0Lux (IR LED on)   |
| Focal Length                | 3.2 ~ 10mm (3.1x)<br>varifocal                                                                                        | 4mm fixed (F1.6)                                                           | 3.2 ~ 10mm (3.1x)<br>motorized varifocal (HCD-6080R)<br>varifocal (HCD-6070R)                    | 4mm fixed (F1.6)                                 |
| Angular Field of View       | H: 110.2° (Wide) ~ 32° (Tele)<br>V: 55.4° (Wide) ~ 18° (Tele)<br>D: 128.4° (Wide) ~ 36.6° (Tele)                      | H: 87.6° / V: 46.4° / D: 104.5°                                            | H: 110.2° (Wide) ~ 32° (Tele)<br>V: 55.4° (Wide) ~ 18° (Tele)<br>D: 128.4° (Wide) ~ 36.6° (Tele) | H: 87.6° / V: 46.4° / D: 104.5°                  |
| Pan / Tilt / Rotate         | —                                                                                                                     | —                                                                          | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                 | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                 |
| IR Viewable Length          | 30m (98.43ft)                                                                                                         | 30m (98.43ft)                                                              | 20m (65.62ft)                                                                                    | 20m (65.62ft)                                    |
| Day & Night                 | Auto (ICR)                                                                                                            |                                                                            |                                                                                                  |                                                  |
| Backlight Compensation      | WDR (120dB)                                                                                                           |                                                                            |                                                                                                  |                                                  |
| Digital Noise Reduction     | SSNRIV                                                                                                                |                                                                            |                                                                                                  |                                                  |
| Motion detection            | Support                                                                                                               |                                                                            |                                                                                                  |                                                  |
| Privacy Masking             | 8 Zones                                                                                                               |                                                                            |                                                                                                  |                                                  |
| Alarm I/O                   | 0/1                                                                                                                   | —                                                                          | 0/1                                                                                              | —                                                |
| Protocol                    | AHD: ACP<br>(AHD Coax Protocol),<br>CVBS: Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol) |                                                                            |                                                                                                  |                                                  |
| Operating Temperature       | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>*Start up above -10°C (+14°F)                                                    | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>*Start up above -10°C (+14°F)         | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                | -10°C ~ +55°C<br>(+14°F ~ +131°F)                |
| Certification               | IP66, IK10                                                                                                            | IP66                                                                       | —                                                                                                | —                                                |
| Power Consumption           | 12VDC & 24VAC: Max 6W                                                                                                 | 12VDC: Max 5.4W                                                            | 12VDC & 24VAC: Max 5.8W (HCD-6080R)<br>12VDC & 24VAC: Max 4.2W (HCD-6070R)                       | 12VDC: Max 5.4W                                  |
| Dimensions (WxHxD) / Weight | Ø78 x 259.8mm<br>(Ø3.07" x 10.23")<br>(Without sunshield)<br>914g (2.02lb)                                            | Ø58.6 x 165.2mm<br>(Ø2.31" x 6.5")<br>(Without sunshield)<br>279g (0.62lb) | Ø119.8 x 98.5mm<br>(Ø4.72" x 3.88")<br>330g (0.73lb) (HCD-6080R)<br>320g (0.71lb) (HCD-6070R)    | Ø110 x 86mm<br>(Ø4.33" x 3.39")<br>227g (0.71lb) |
| Additional Features         | Video Transmission up to 500m<br>(5C2V Coaxial Cable), Simple Focus (HCD-6080R only)                                  |                                                                            |                                                                                                  |                                                  |



**HCD-6010**  
1080p HD Dome Camera



**HCV-6080R/6070R**  
1080p HD IR Vandal Dome Camera



**SCB-6005**  
1080p HD Box Camera



**SCO-6085R**  
1080p HD IR Bullet Camera

|                             |                                                                                                                         |                                                                                                                         |                                                                        |                                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Imaging Device              | 1/2.8" CMOS                                                                                                             |                                                                                                                         |                                                                        |                                                                                                     |
| Resolution                  | 1920 x 1080                                                                                                             |                                                                                                                         |                                                                        |                                                                                                     |
| Min. Illumination           | Color : 0.27Lux (F2.0)<br>B/W : 0.017 Lux (F2.0)                                                                        | Color : 0.11Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                                        | Color: 0.04Lux (F1.2, 1/30sec)<br>BW: 0.004Lux (F1.2)                  | Color : 0.11Lux (F1.6)<br>B/W : 0Lux (IR LED on)                                                    |
| Focal Length                | 2.8mm fixed (F2.0)                                                                                                      | 3.2 ~ 10mm (3.1x)<br>motorized varifocal (HCV-6080R)<br>varifocal (HCV-6070R)                                           | —                                                                      | 3.2 ~ 10mm (3.1x)<br>manual varifocal                                                               |
| Angular Field of View       | H : 113.7° / V : 61.5° / D : 134.5°                                                                                     | H : 110.2° (Wide) ~ 32° (Tele)<br>V : 55.4° (Wide) ~ 18° (Tele)<br>D : 128.4° (Wide) ~ 36.6° (Tele)                     | —                                                                      | H : 110.2° (Wide) ~ 32° (Tele)<br>V : 55.4° (Wide) ~ 18° (Tele)<br>D : 128.4° (Wide) ~ 36.6° (Tele) |
| Pan / Tilt / Rotate         | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                                        | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                                        | —                                                                      | —                                                                                                   |
| IR Viewable Length          | —                                                                                                                       | 30m (98.43ft)                                                                                                           | —                                                                      | 30m (98.42ft)                                                                                       |
| Day & Night                 | Auto (ICR)                                                                                                              |                                                                                                                         |                                                                        |                                                                                                     |
| Backlight Compensation      | WDR (120dB)                                                                                                             |                                                                                                                         | DWDR                                                                   |                                                                                                     |
| Digital Noise Reduction     | SSNR/IV                                                                                                                 |                                                                                                                         |                                                                        |                                                                                                     |
| Motion detection            | Support                                                                                                                 |                                                                                                                         |                                                                        |                                                                                                     |
| Privacy Masking             | 8 Zones                                                                                                                 |                                                                                                                         |                                                                        |                                                                                                     |
| Alarm I/O                   | —                                                                                                                       | 0 / 1                                                                                                                   | 0 / 1                                                                  | 0 / 1                                                                                               |
| Protocol                    | AHD : ACP<br>(AHD Coax Protocol),<br>CVBS : Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol) | AHD : ACP<br>(AHD Coax Protocol),<br>CVBS : Pelco-C (Coaxitron),<br>CCP (CVI Coax Protocol),<br>TCP (TVI Coax Protocol) | ACP (AHD Coax Protocol)<br>CVBS : Pelco-C (Coaxitron)                  | AHD : ACP (AHD Coax Protocol),<br>CVBS : Pelco-C (Coaxitron)                                        |
| Operating Temperature       | -10°C ~ +55°C<br>(+14°F ~ +131°F)                                                                                       | -30°C ~ +55°C<br>(-22°F ~ +131°F)<br>* Start up above -10°C (+14°F)                                                     | -10°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH                           | -30°C ~ +55°C<br>(-22°F ~ +131°F)                                                                   |
| Certification               | —                                                                                                                       | IP66, IK10                                                                                                              | —                                                                      | IP66, IK10                                                                                          |
| Power Consumption           | 12VDC : Max 3.6W                                                                                                        | 12VDC & 24VAC : Max 5.8W (HCV-6080R)<br>12VDC & 24VAC : Max 4.2W (HCV-6070R)                                            | AC 24V / 0.37A (Max 3.6W)<br>DC 12V / 0.32A (Max 3.5W)                 | 24VAC : Max 5.4W, typical 3.4W<br>12VDC : Max 5.4W, typical 3.4W                                    |
| Dimensions (WxHxD) / Weight | Ø 110 x 86mm<br>(Ø 4.33" x 3.39")<br>225g (0.49lb)                                                                      | Ø 137 x 106.1mm<br>(Ø 5.39" x 4.18")<br>725g (1.60lb) (HCV-6080R)<br>715g (1.58lb) (HCV-6070R)                          | W 68.4 x H 59.6 x D 92.7mm<br>(2.69" x 2.35" x 3.65")<br>186g (0.41lb) | Ø 78 x 259.8mm<br>(Ø 3.07" x 10.23")<br>887g (1.95lb)                                               |
| Additional Features         | Video transmission up to 500m<br>(5C2V Coaxial Cable), Simple Focus (HCV-6080R only)                                    |                                                                                                                         |                                                                        |                                                                                                     |



**SCO-6025R**  
1080p HD IR Bullet Camera



**SCD-6085R**  
1080p HD IR Dome Camera



**SCD-6025R**  
1080p HD IR Dome Camera



**SCV-6085R**  
1080p HD IR Vandal Dome Camera

|                             |                                                                                          |                                                                                                  |                                                        |                                                                                                  |
|-----------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Imaging Device              | 1/2.8" CMOS                                                                              |                                                                                                  |                                                        |                                                                                                  |
| Resolution                  | 1920 x 1080                                                                              |                                                                                                  |                                                        |                                                                                                  |
| Min. Illumination           | Color: 0.11Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on)                                   | Color: 0.11Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on)                                           | Color: 0.17Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on) | Color: 0.11Lux (F1.6, 1/30sec)<br>BW: 0Lux (IR LED on)                                           |
| Focal Length                | 4mm fixed                                                                                | 3.2~10mm (3.1x) varifocal                                                                        | 4mm fixed                                              | 3.2~10mm (3.1x) varifocal                                                                        |
| Angular Field of View       | H: 87.6° / V: 46.4° / D: 104.5°                                                          | H: 110.2° (Wide) ~ 32° (Tele)<br>V: 55.4° (Wide) ~ 18° (Tele)<br>D: 128.4° (Wide) ~ 36.6° (Tele) | H: 87.6° / V: 46.4° / D: 104.5°                        | H: 110.2° (Wide) ~ 32° (Tele)<br>V: 55.4° (Wide) ~ 18° (Tele)<br>D: 128.4° (Wide) ~ 36.6° (Tele) |
| Pan / Tilt / Rotate         | —                                                                                        | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                 | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                       | 0° ~ 350° / 0° ~ 67° / 0° ~ 355°                                                                 |
| IR Viewable Length          | 30m (98.42ft)                                                                            | 20m (65.62ft)                                                                                    | 20m (65.62ft)                                          | 30m (98.43ft)                                                                                    |
| Day & Night                 | Auto (ICR)                                                                               |                                                                                                  |                                                        |                                                                                                  |
| Backlight Compensation      | BLC, HLC, DWDR                                                                           |                                                                                                  |                                                        |                                                                                                  |
| Digital Noise Reduction     | SSNR/IV                                                                                  |                                                                                                  |                                                        |                                                                                                  |
| Motion detection            | Support                                                                                  |                                                                                                  |                                                        |                                                                                                  |
| Privacy Masking             | 8 Zones                                                                                  |                                                                                                  |                                                        |                                                                                                  |
| Alarm I/O                   | 0 / 1                                                                                    | 0 / 1                                                                                            | 0 / 1                                                  | 0 / 1                                                                                            |
| Protocol                    | ACP (AHD Coax Protocol)<br>CVBS: Pelco-C (Coaxitron)                                     |                                                                                                  |                                                        |                                                                                                  |
| Operating Temperature       | -30°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH<br>* Start up should be done at above -10°C | -10°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH                                                     | -10°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH           | -30°C ~ +55°C (+14°F ~ +131°F) /<br>0~90% RH<br>* Start up should be done at above -10°C         |
| Certification               | IP66                                                                                     | —                                                                                                | —                                                      | IP66, IK10                                                                                       |
| Power Consumption           | DC 12V/0.45A (Max 5.4W)                                                                  | AC 24V / 0.45A<br>DC 12V / 0.46A                                                                 | DC 12V/0.45A (Max 5.4W)                                | AC 24V / 0.45A<br>DC 12V / 0.46A                                                                 |
| Dimensions (WxHxD) / Weight | Ø58.6 x 165.2mm<br>(Ø 2.31" x 6.5")<br>(without sunshield)<br>279g (0.62lb)              | Ø119.8 x 98.5mm<br>(Ø4.72" x 3.88")<br>320g (0.7lb)                                              | Ø110 x 86mm<br>(Ø4.33" x 3.39")<br>227g (0.5lb)        | Ø137 x 106.1mm<br>(Ø5.39" x 4.18")<br>715g (1.57lb)                                              |
| Additional Features         | Video transmission up to 500m (5C2V Coaxial Cable)                                       |                                                                                                  |                                                        |                                                                                                  |





**HRX-1635**  
16CH 8MP Pentabrid Recorder



**HRX-1634**  
16CH 8MP Pentabrid Recorder



**HRX-835A**  
8CH 8MP Pentabrid Recorder



**HRX-435**  
4CH 8MP Pentabrid Recorder



**HRX-434**  
4CH 8MP Pentabrid Recorder

| OS                  | Linux                                                                                                                                                                                                                                                                        | Linux                                                                                                                                                 | Linux                                                                                                                                                 | Linux                                                                                                                                           | Linux                                                                                                                                           |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Compression         | H.265, H.264, MJPEG                                                                                                                                                                                                                                                          | H.265, H.264, MJPEG                                                                                                                                   | H.265, H.264, MJPEG                                                                                                                                   | H.265, H.264, MJPEG                                                                                                                             | H.265, H.264, MJPEG                                                                                                                             |
| Signal Type         | AHD(8MP, 5MP, 4MP, 1080p, 720p)<br>HDTV(I(8MP, 5MP, 4MP, 1080p, 720p)<br>HDCVI(5MP, 4MP, 1080p, 720p)<br>CVBS(NTSC/PAL)                                                                                                                                                      |                                                                                                                                                       |                                                                                                                                                       |                                                                                                                                                 |                                                                                                                                                 |
| Inputs              | Analog Camera – 16CH(1Vp-p 75ohm, BNC)<br>Network Camera – 2CH(Up to 18CH)                                                                                                                                                                                                   | Analog Camera – 16CH(1Vp-p 75ohm, BNC)<br>Network Camera – 2CH(Up to 18CH)                                                                            | Analog Camera – 8CH(1Vp-p 75ohm, BNC)<br>Network Camera – 2CH(Up to 10CH)                                                                             | "Analog Camera – 4CH(1Vp-p 75ohm, BNC)<br>Network Camera – 2CH(Up to 6CH)"                                                                      | "Analog Camera – 4CH(1Vp-p 75ohm, BNC)<br>Network Camera – 2CH(Up to 6CH)"                                                                      |
| Record Rate         | (Main Stream, NT/PAL) 8M 8/8fps, 5M 12/12fps, 4M 15/12fps, 2M 30/25fps, 720p 30/25fps, Under 960H 30/25fps/CH<br>(Sub Stream) 720p/CH or Higher: 640x368 Full fps, SD: up to SD Full fps<br>* The maximum recording framerate depends on the frame rate of the input camera. |                                                                                                                                                       |                                                                                                                                                       |                                                                                                                                                 |                                                                                                                                                 |
| HDD Slot            | SATA 8ea(Max. 48TB)                                                                                                                                                                                                                                                          | SATA 2ea(Max. 12TB)                                                                                                                                   | SATA 4ea(Max 24TB)                                                                                                                                    | SATA 2ea(Max 12TB)                                                                                                                              | SATA 1ea(Max 6TB)                                                                                                                               |
| Viewer Software     | SSM, Webviewer, Wisenet Mobile, Wisenet Viewer                                                                                                                                                                                                                               |                                                                                                                                                       |                                                                                                                                                       |                                                                                                                                                 |                                                                                                                                                 |
| Local Display       | 1x HDMI, 1x VGA (Dual monitor)<br>HDMI: 3840 x 2160, 2560x1440, 1920x1080,<br>1280x1024, 1280x720<br>VGA: 1920x1080, 1280x1024, 1280x720,<br>1024x768                                                                                                                        | 1x HDMI, 1x VGA (Dual monitor)<br>HDMI: 3840 x 2160, 2560x1440, 1920x1080,<br>1280x1024, 1280x720<br>VGA: 1920x1080, 1280x1024, 1280x720,<br>1024x768 | 1x HDMI, 1x VGA (Dual monitor)<br>HDMI: 3840 x 2160, 2560x1440, 1920x1080,<br>1280x1024, 1280x720<br>VGA: 1920x1080, 1280x1024, 1280x720,<br>1024x768 | 1x HDMI, 1x VGA (simultaneous output)<br>HDMI: 3840 x 2160, 2560x1440, 1920x1080,<br>1280x1024, 1280x720<br>VGA: 1920x1080, 1280x1024, 1280x720 | 1x HDMI, 1x VGA (simultaneous output)<br>HDMI: 3840 x 2160, 2560x1440, 1920x1080,<br>1280x1024, 1280x720<br>VGA: 1920x1080, 1280x1024, 1280x720 |
| Audio In/Out        | 16 Line in<br>(RCA 4 Line, Option : Audio Extension Cable) /<br>1 Line line out                                                                                                                                                                                              | 4 Line in / 1 Line out                                                                                                                                | 8 Line in (RCA 4 Line, Option : Audio Extension<br>Cable) / 1 Line line out                                                                           | 4 Line in / 1 Line out                                                                                                                          | 4 Line in / 1 Line out                                                                                                                          |
| Alarm In/Out        | In 16EA, Out 4EA<br>– Relay Out 1(NO/NC/COM)<br>– Relay Out 2~4(NO/COM)                                                                                                                                                                                                      | In 16EA, Out 4EA<br>– Relay Out 1(NO/NC/COM)<br>– Relay Out 2~4(NO/COM)                                                                               | In 8EA, Out 4EA<br>– Relay Out 1(NO/NC/COM)<br>– Relay Out 2~4(NO/COM)                                                                                | In 4EA, Out 2EA<br>– Relay Out 1(NO/NC/COM)<br>– Relay Out 2(NO/COM)                                                                            | In 4EA, Out 1EA<br>– Relay Out 1(NO/NC/COM)                                                                                                     |
| N/W Camera Support  | SUNAPI, ONVIF                                                                                                                                                                                                                                                                | SUNAPI, ONVIF                                                                                                                                         | SUNAPI, ONVIF                                                                                                                                         | SUNAPI, ONVIF                                                                                                                                   | SUNAPI, ONVIF                                                                                                                                   |
| Additional Features | –                                                                                                                                                                                                                                                                            | –                                                                                                                                                     | –                                                                                                                                                     | –                                                                                                                                               | –                                                                                                                                               |

## LED Monitor



**SMT-4343**  
43" LED Monitor



**SMT-3240**  
32" LED Monitor



**SMT-3215**  
31.5" LED Monitor



**SMT-2740**  
27" LED Monitor



**SMT-2710**  
27" LED Monitor



**SMT-2431**  
24" LED Monitor



**SMT-2212**  
22" LED Monitor

| Screen Size           | 43"                   | 32"                    | 31.5"                          | 27"                                         | 27"                            | 24"                   | 22"                   |
|-----------------------|-----------------------|------------------------|--------------------------------|---------------------------------------------|--------------------------------|-----------------------|-----------------------|
| Max. Resolution       | 3840 x 2160           | 3840 x 2160            | 1920*1080, 60Hz (FHD)          | 3840 x 2160, 60Hz (UHD)                     | 1920 x 1080, 60Hz (FHD)        | 1920 x 1080           | 1920 x 1080           |
| Brightness            | 300 cd/m <sup>2</sup> | 300 cd/m <sup>2</sup>  | 300cd/m <sup>2</sup>           | 300 cd/m <sup>2</sup>                       | 250 cd/m <sup>2</sup>          | 250 cd/m <sup>2</sup> | 250 cd/m <sup>2</sup> |
| Contrast Ratio        | 1000:1                | 1000:1                 | 4000:1                         | 1200:1                                      | 4000:1                         | 4000:1                | 3000:1                |
| Aspect Ratio          | 16:9                  |                        |                                |                                             |                                |                       |                       |
| Viewing Angle(H/V)    | 178°/178°             |                        |                                |                                             |                                |                       |                       |
| Response Time         | 8.5ms                 | 14ms                   | 20ms                           | —                                           | 6.5ms                          | 14ms                  | 6.5ms                 |
| Interface             | HDMI (1), DP (1)      | HDMI 2.0(1), DP 1.2(1) | VGA(1), HDMI 1.4(1), DP 1.2(1) | HDMI 2.0(2), DP 1.4(1), two windows PIP/PBP | VGA(1), HDMI 1.4(1), DP 1.2(1) | HDMI (1), VGA (1)     | HDMI(1), VGA(1)       |
| Audio In/Out          | —/1                   | —/1                    | 1/1                            | —/—                                         | 1/1                            | —/—                   | —/—                   |
| Built-in Speakers     | Yes                   | Yes                    | Yes                            | Yes                                         | Yes                            | —                     | —                     |
| VESA Mount(mm)        | 100*100/400*200       | 100*100                | 100*100                        | 100*100                                     | 100*100                        | 100*100               | 100*100               |
| Power                 | 100V ~ 240V AC        | 100V ~ 240V AC         | 100V ~ 240V AC                 | 100V ~ 240V AC                              | 100V ~ 240V AC                 | 100V ~ 240V AC        | DC 12V 5A             |
| Stand                 | Optional              | Yes                    | Yes                            | Yes                                         | Yes                            | Yes                   | Yes                   |
| Tempered Glass Screen | —                     |                        |                                |                                             |                                |                       |                       |
| Additional Features   | Remote Controller     | —                      | —                              | —                                           | —                              | —                     | —                     |



**SMT-3231PV**  
32" AI Public View Monitor



**SMT-2731PV**  
27" AI Public View Monitor



**SMT-3221PV**  
32" AI Public View Monitor



**SMT-2721PV**  
27" AI Public View Monitor



**SMT-1031PV/PVW**  
10" AI Public View Monitor

## PVM

| Screen Size         | 31.55"                                                                       | 27"                                                     | 31.55"                                                            | 27"                                                     | 10.1"                                                             |
|---------------------|------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| Max. Resolution     | 1920*1080, 60Hz (FHD)                                                        | 1920*1080, 60Hz (FHD)                                   | 1920*1080, 60Hz (FHD)                                             | 1920*1080, 60Hz (FHD)                                   | 1024x600, 60Hz                                                    |
| Brightness          | 400 cd/m <sup>2</sup>                                                        | 300 cd/m <sup>2</sup>                                   | 400cd/m <sup>2</sup>                                              | 300 cd/m <sup>2</sup>                                   | 500 cd/m <sup>2</sup>                                             |
| Contrast Ratio      | 1300:1                                                                       | 1000:1                                                  | 1300:1                                                            | 1000:1                                                  | 500:1                                                             |
| Aspect Ratio        | 16:9                                                                         |                                                         |                                                                   |                                                         | 5:3                                                               |
| Viewing Angle(H/V)  | 178°/178°                                                                    |                                                         |                                                                   |                                                         | 140°/120°                                                         |
| Response Time       | 25ms                                                                         | 14ms                                                    | 25ms                                                              | 14ms                                                    | 20ms                                                              |
| Interface           | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB                                | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB           | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB                     | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB           | Micro SD/SDHC/SDXC 1 slot 256GB                                   |
| Audio In/Out        | 1/1                                                                          | 1/1                                                     | 1/1                                                               | 1/1                                                     | 1/1                                                               |
| Built-in Speakers   | Yes                                                                          | Yes                                                     | Yes                                                               | Yes                                                     | Yes                                                               |
| VESA Mount(mm)      | 100x100mm, 200x100mm, 200x200mm                                              | 100x100mm, 200x100mm, 200x200mm                         | 100x100mm, 200x100mm, 200x200mm                                   | 100x100mm, 200x100mm, 200x200mm                         | 75mmx75mm                                                         |
| Network             | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)                      | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API) | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)           | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API) | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)           |
| Weight              | 12.4kg                                                                       | 8.5kg                                                   | 12.4kg                                                            | 8.5kg                                                   | 900g                                                              |
| Additional Features | AI Object Classification and Analytics, Customizable text overlay, PIP + PBP |                                                         | AI object Classification and Analytics, Customizable text overlay |                                                         | AI object Classification and Analytics, Customizable text overlay |

## PVM

## LED Monitor



**SMT-4343**  
43" LED Monitor



**SMT-3240**  
32" LED Monitor



**SMT-3215**  
31.5" LED Monitor



**SMT-2740**  
27" LED Monitor



**SMT-2710**  
27" LED Monitor



**SMT-2431**  
24" LED Monitor



**SMT-2212**  
22" LED Monitor

| Screen Size           | 43"                   | 32"                    | 31.5"                          | 27"                                         | 27"                            | 24"                   | 22"                   |
|-----------------------|-----------------------|------------------------|--------------------------------|---------------------------------------------|--------------------------------|-----------------------|-----------------------|
| Max. Resolution       | 3840 x 2160           | 3840 x 2160            | 1920*1080, 60Hz (FHD)          | 3840 x 2160, 60Hz (UHD)                     | 1920 x 1080, 60Hz (FHD)        | 1920 x 1080           | 1920 x 1080           |
| Brightness            | 300 cd/m <sup>2</sup> | 300 cd/m <sup>2</sup>  | 300cd/m <sup>2</sup>           | 300 cd/m <sup>2</sup>                       | 250 cd/m <sup>2</sup>          | 250 cd/m <sup>2</sup> | 250 cd/m <sup>2</sup> |
| Contrast Ratio        | 1000:1                | 1000:1                 | 4000:1                         | 1200:1                                      | 4000:1                         | 4000:1                | 3000:1                |
| Aspect Ratio          | 16:9                  |                        |                                |                                             |                                |                       |                       |
| Viewing Angle(H/V)    | 178°/178°             |                        |                                |                                             |                                |                       |                       |
| Response Time         | 8.5ms                 | 14ms                   | 20ms                           | —                                           | 6.5ms                          | 14ms                  | 6.5ms                 |
| Interface             | HDMI (1), DP (1)      | HDMI 2.0(1), DP 1.2(1) | VGA(1), HDMI 1.4(1), DP 1.2(1) | HDMI 2.0(2), DP 1.4(1), two windows PIP/PBP | VGA(1), HDMI 1.4(1), DP 1.2(1) | HDMI (1), VGA (1)     | HDMI(1), VGA(1)       |
| Audio In/Out          | —/1                   | —/1                    | 1/1                            | —/—                                         | 1/1                            | —/—                   | —/—                   |
| Built-in Speakers     | Yes                   | Yes                    | Yes                            | Yes                                         | Yes                            | —                     | —                     |
| VESA Mount(mm)        | 100*100/400*200       | 100*100                | 100*100                        | 100*100                                     | 100*100                        | 100*100               | 100*100               |
| Power                 | 100V ~ 240V AC        | 100V ~ 240V AC         | 100V ~ 240V AC                 | 100V ~ 240V AC                              | 100V ~ 240V AC                 | 100V ~ 240V AC        | DC 12V 5A             |
| Stand                 | Optional              | Yes                    | Yes                            | Yes                                         | Yes                            | Yes                   | Yes                   |
| Tempered Glass Screen | —                     |                        |                                |                                             |                                |                       |                       |
| Additional Features   | Remote Controller     | —                      | —                              | —                                           | —                              | —                     | —                     |



**SMT-3231PV**  
32" AI Public View Monitor



**SMT-2731PV**  
27" AI Public View Monitor



**SMT-3221PV**  
32" AI Public View Monitor



**SMT-2721PV**  
27" AI Public View Monitor



**SMT-1031PV/PVW**  
10" AI Public View Monitor

## PVM

| Screen Size         | 31.55"                                                                       | 27"                                                     | 31.55"                                                            | 27"                                                     | 10.1"                                                             |
|---------------------|------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| Max. Resolution     | 1920*1080, 60Hz (FHD)                                                        | 1920*1080, 60Hz (FHD)                                   | 1920*1080, 60Hz (FHD)                                             | 1920*1080, 60Hz (FHD)                                   | 1024x600, 60Hz                                                    |
| Brightness          | 400 cd/m <sup>2</sup>                                                        | 300 cd/m <sup>2</sup>                                   | 400cd/m <sup>2</sup>                                              | 300 cd/m <sup>2</sup>                                   | 500 cd/m <sup>2</sup>                                             |
| Contrast Ratio      | 1300:1                                                                       | 1000:1                                                  | 1300:1                                                            | 1000:1                                                  | 500:1                                                             |
| Aspect Ratio        | 16:9                                                                         |                                                         |                                                                   |                                                         | 5:3                                                               |
| Viewing Angle(H/V)  | 178°/178°                                                                    |                                                         |                                                                   |                                                         | 140°/120°                                                         |
| Response Time       | 25ms                                                                         | 14ms                                                    | 25ms                                                              | 14ms                                                    | 20ms                                                              |
| Interface           | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB                                | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB           | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB                     | HDMI (1.4x2), Micro SD/SDHC/SDXC 1 slot 256GB           | Micro SD/SDHC/SDXC 1 slot 256GB                                   |
| Audio In/Out        | 1/1                                                                          | 1/1                                                     | 1/1                                                               | 1/1                                                     | 1/1                                                               |
| Built-in Speakers   | Yes                                                                          | Yes                                                     | Yes                                                               | Yes                                                     | Yes                                                               |
| VESA Mount(mm)      | 100x100mm, 200x100mm, 200x200mm                                              | 100x100mm, 200x100mm, 200x200mm                         | 100x100mm, 200x100mm, 200x200mm                                   | 100x100mm, 200x100mm, 200x200mm                         | 75mmx75mm                                                         |
| Network             | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)                      | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API) | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)           | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API) | WiseStreamIII, ONVIF Profile S/G/T/M, SUNAPI (HTTP API)           |
| Weight              | 12.4kg                                                                       | 8.5kg                                                   | 12.4kg                                                            | 8.5kg                                                   | 900g                                                              |
| Additional Features | AI Object Classification and Analytics, Customizable text overlay, PIP + PBP |                                                         | AI object Classification and Analytics, Customizable text overlay |                                                         | AI object Classification and Analytics, Customizable text overlay |

Controller



SPC-2010  
PTZ / DVR System Controller



SPC-2001  
PTZ / DVR System Controller



SPC-1010  
PTZ Control Keyboard

|          |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features | <ul style="list-style-type: none"><li>• Control up to 255 PTZ Cameras / DVRs</li><li>• Built-in 3 Axis Twist Zoom Joystick</li><li>• Built-in Jog Shuttle</li><li>• 16 x 2 Character LCD Display</li><li>• RS-485 and RS-422 Interface</li></ul> | <ul style="list-style-type: none"><li>• Control up to 255 PTZ Cameras / DVRs</li><li>• Built-in 3 Axis Twist Zoom Joystick</li><li>• Built-in Jog Shuttle</li><li>• 16 x 2 Character LCD Display</li><li>• RS-485 and RS-422 Interface</li></ul> | <ul style="list-style-type: none"><li>• Control up to 255 PTZ Cameras</li><li>• Multi Protocols Supports</li><li>• OSD Menu, 3D Joystick Control</li><li>• RS-485 and RS-422 Interface</li></ul> |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Lens

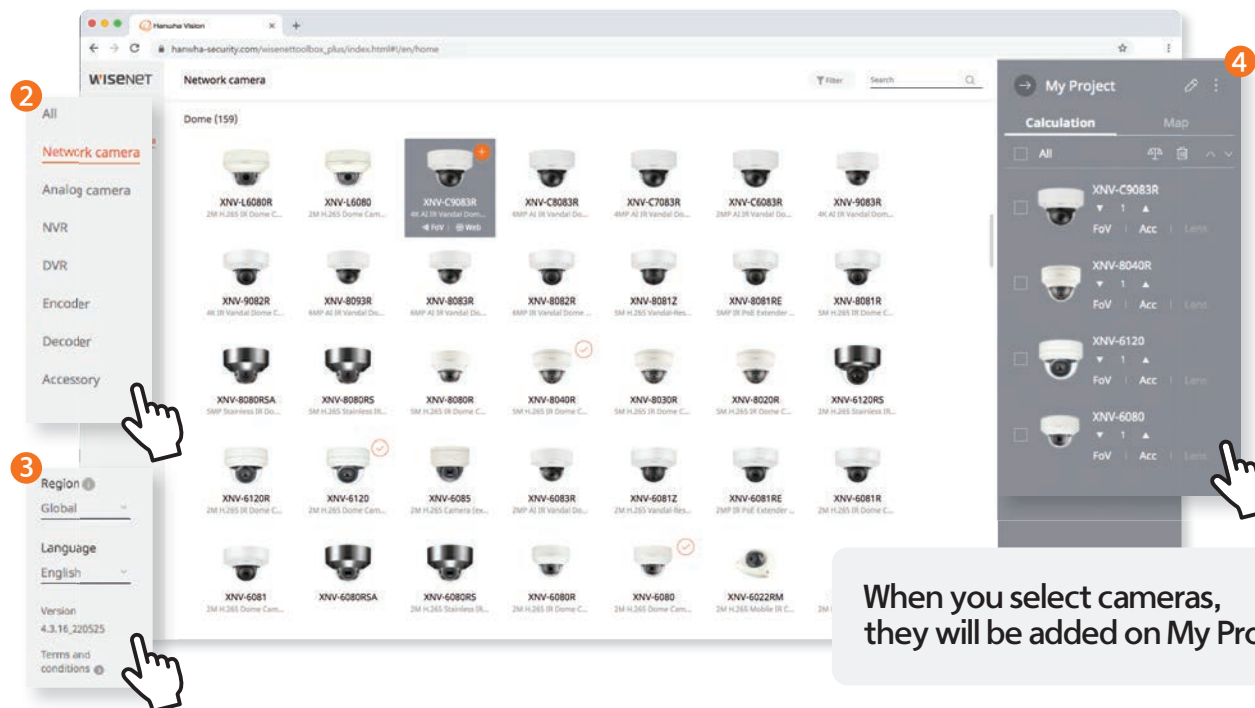
| Model       | Image                                                                               | Mount | Image Format | Resolution | Focal Length                  | Back Focal Length               | Zoom Ratio | F. No | Angle of View  | Operation |       |      | Dimensions<br>W x H x D (mm / inch)               | Weight<br>(g / lb) |
|-------------|-------------------------------------------------------------------------------------|-------|--------------|------------|-------------------------------|---------------------------------|------------|-------|----------------|-----------|-------|------|---------------------------------------------------|--------------------|
|             |                                                                                     |       |              |            |                               |                                 |            |       |                | Iris      | Focus | Zoom |                                                   |                    |
| SLA-M8550D  |    | CS    | 1 / 2.8"     | 3Megapixel | 8.5 ~ 50mm<br>(0.33" ~ 1.97") | 9.4 ~ 10.7mm<br>(0.37" ~ 0.42") | 5.9        | F1.6  | 42.3° ~ 7.5°   | DC        |       |      | W 46 x H 60 x D 58.2mm<br>(1.81" x 2.36" x 2.29") | 80g<br>(0.17 lb)   |
| SLA-M2890DN |    |       |              |            | 2.8 ~ 9mm<br>(0.11" ~ 0.35")  | 7.5 ~ 15.9mm<br>(0.3" ~ 0.63")  | 3.2        | 1.2   | 134.2° ~ 42.7° |           |       |      | Manual                                            | Manual             |
| SLA-M2890PN |  |       |              |            | P-Iris                        |                                 |            |       |                |           |       |      |                                                   |                    |



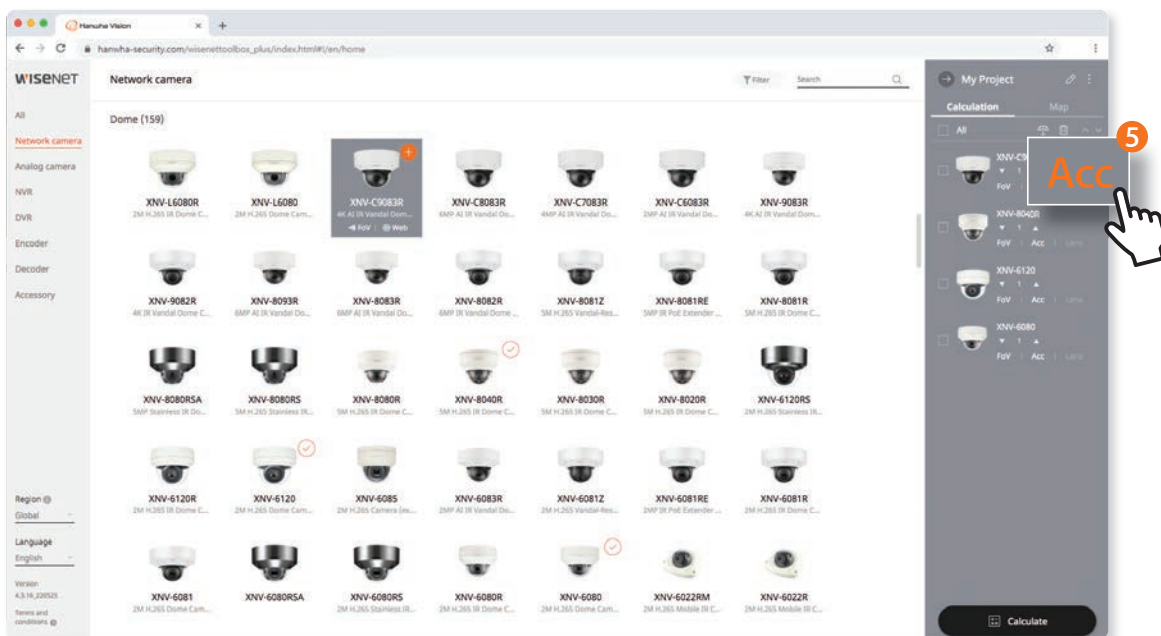
Click the Wisenet Toolbox Plus on  
[HanwhaVisionAmerica.com](http://HanwhaVisionAmerica.com)

Choose product you are interested in

Select region and language

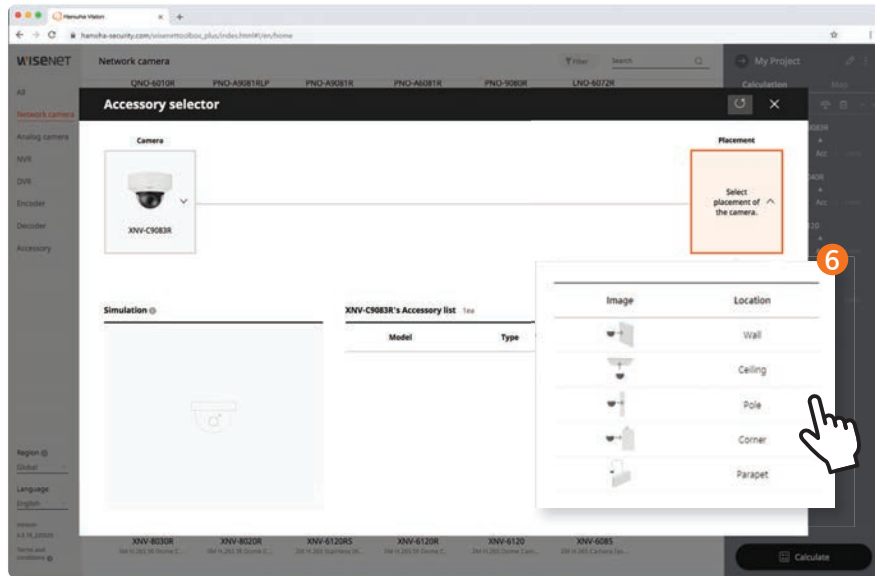


When you select cameras, they will be added on My Project

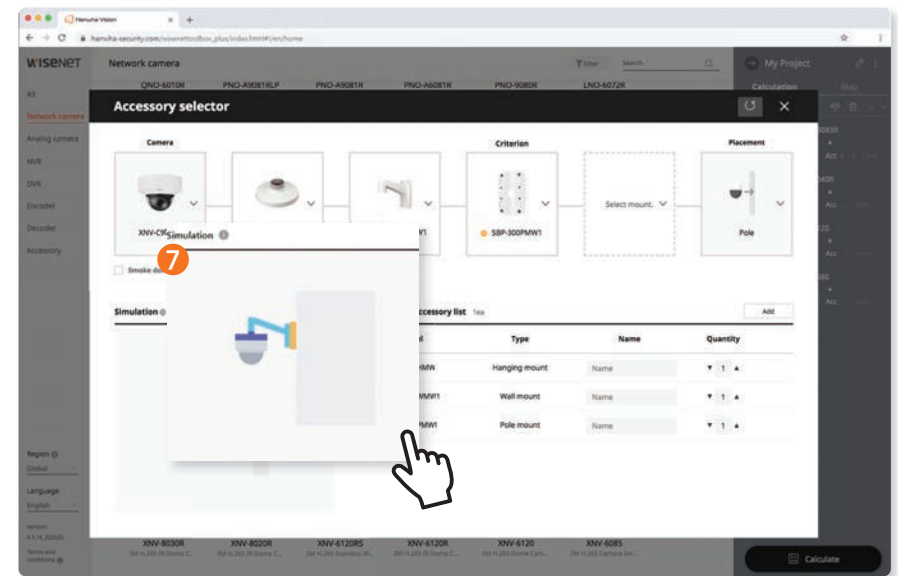


Click the Acc to find compatible accessories



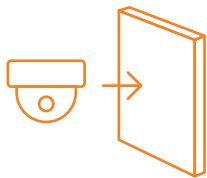


Accessory Selector pops up.  
All compatible accessories are shown

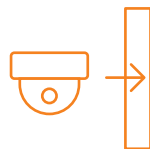


Choose accessories then the simulation  
intuitively shows all connected accessories

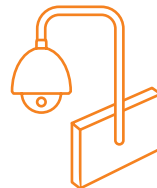
**WM** Wall mounts



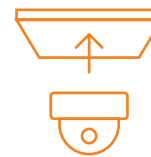
**PM** Pole mounts



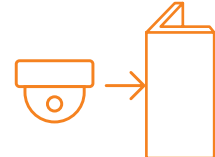
**LM** Parapet mounts



**CM** Ceiling mounts

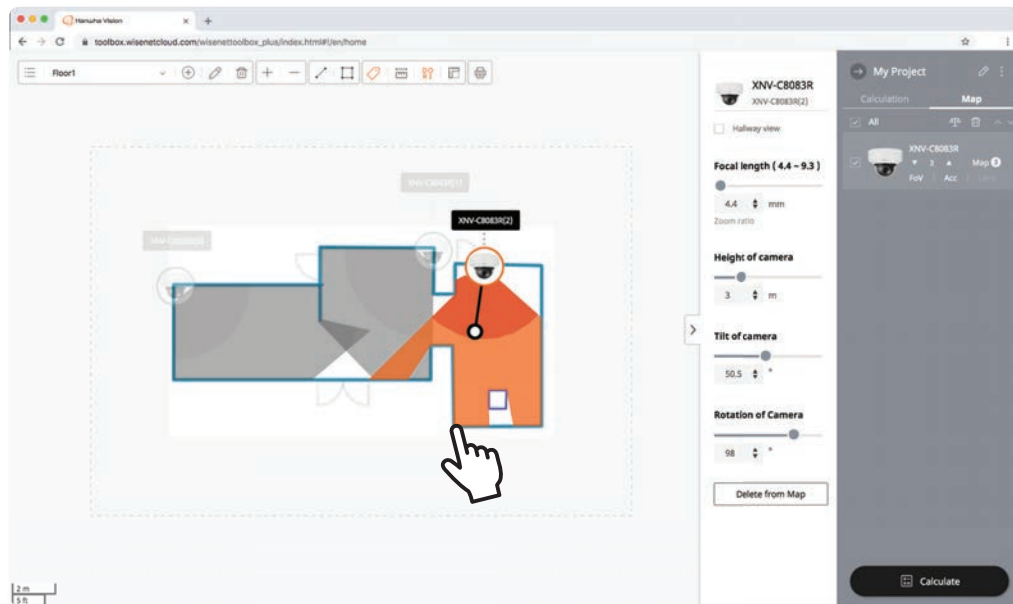
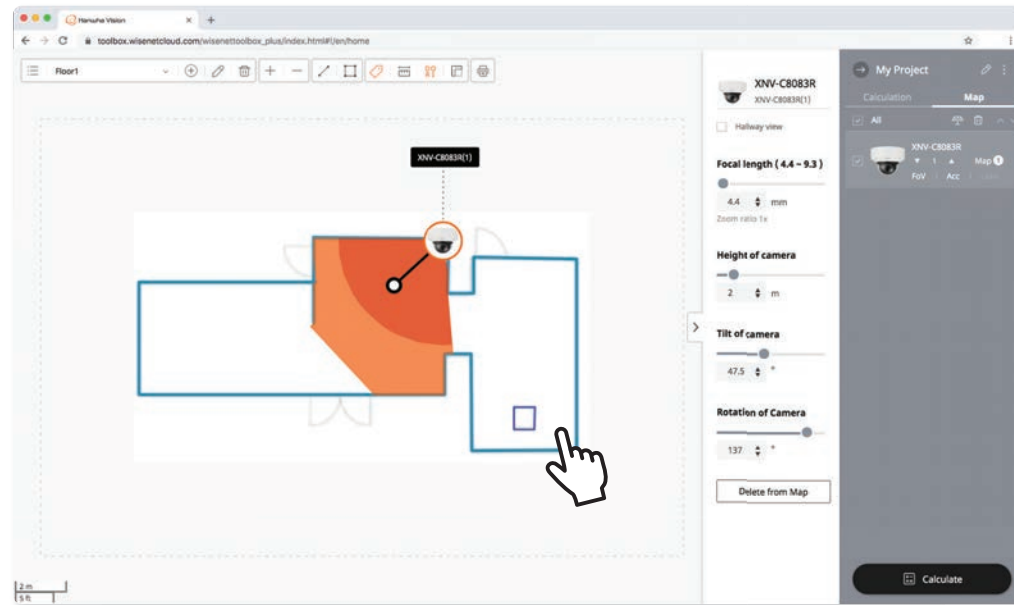


**KM** Corner mounts



## Newly updated in Toolbox Plus: Simulate on the map

Toolbox Plus helps you simulate  
the best place for installing cameras.



By uploading your map to Toolbox plus,  
you can test how much  
cameras can cover in your own space.

It can guide you on how to compose and install  
cameras to minimize blind spots in advance.



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