2026
1H PRODUCT PORTFOLIO
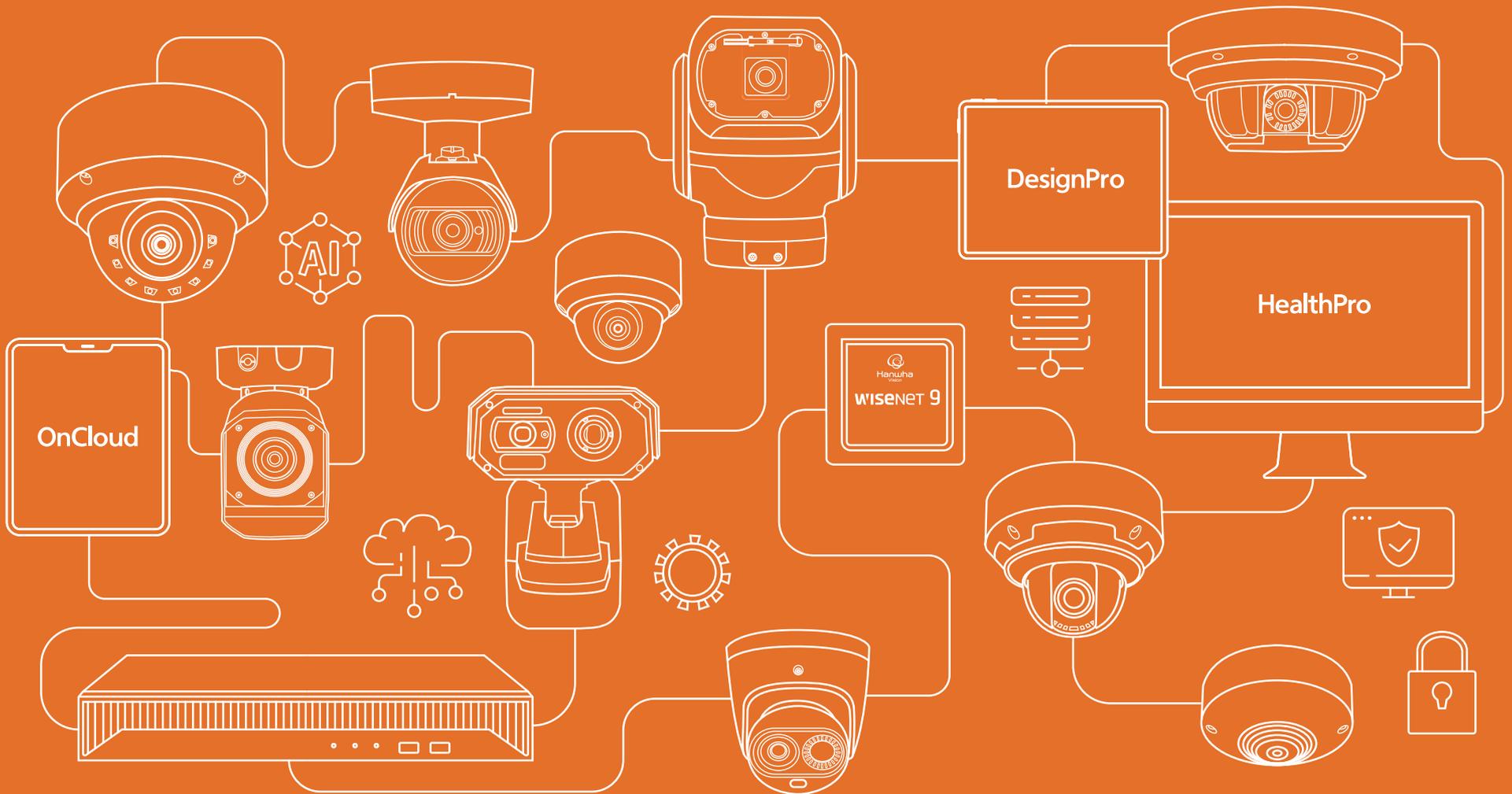
Hanwha Vision

DesignPro

HealthPro

OnCloud

WISENET 9

CONTENTS

* Product specifications in this brochure may differ as products are continuously updated to meet our customers' needs. We recommend to check out our website for the latest specs: www.HanwhaVision.com

5 Year Warranty

Offering long-term peace of mind with a comprehensive five-year warranty on Hanwha Vision network products globally, ensuring reliability and support.

- 5 Year product warranty
- Consistent global support
- Minimized total cost of ownership (TCO)

The 5-year warranty period has specific exceptions for consumable parts. For full details, please refer to the official Warranty Policy on our website.

Hanwha Vision Toolbox PLUS

Hanwha Vision Toolbox PLUS is an all-in-one software solution that simplifies surveillance system design, letting you accurately plan camera placement and coverage, estimate bandwidth and storage needs, and easily compare products to build the perfect security setup.

Technical Support Portal

A Comprehensive online hub that provides users with 24/7 self-service resources including an extensive knowledge base with FAQs, alongside valuable tools. Technical Support Portal also facilitates direct technical support by allowing users to submit and manage support tickets, ultimately streamlining problem resolution and ensuring optimal performance of Hanwha Vision products.

Hanwha Vision Open Platform

The Hanwha Vision Open Platform enables third-party developers to create and integrate intelligent applications directly into Hanwha Vision cameras, essentially transforming them into smarter devices. This provides advanced functionalities like on-camera video analytics and custom features, eliminating the need for complex, separate servers or additional computer equipment for these capabilities. As a result, users gain greater customization and efficiency for their security systems, adapting to future security needs.

Wisenet Device Manager

Streamline your surveillance system management with the Hanwha Vision Wisenet Device Manager. This powerful tool simplifies discovering, configuring, and updating multiple Hanwha Vision devices across your network. From bulk IP assignment and firmware updates to advanced camera settings, gain effortless control and maximize the efficiency of your security solutions.

Hanwha Vision Learning Center

Unlock your full potential and master the latest in video surveillance technology with the Hanwha Vision Learning Center. Our expert-led, practical training dives deep into cutting-edge solutions, emerging technologies, and critical industry trends. From camera basics to advanced AI and VMS configurations, our comprehensive, self-paced courses are designed to build your expertise.

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 2024, we are the seventh largest business enterprise in South Korea and recognized among the world's top 500 companies by a prestigious global publication, as well as one of the 100 most influential companies by renowned international media.

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.

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

Sales	Years of History
2024	Founded in 1952
64.1 USD Billions	**73**
Global Networks	Business Enterprise in South Korea
As of end of 2023	Total asset basis, as of end of 2024
821	**TOP 7**

Hanwha Vision

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

Over the past 35 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.

History

Year	Event
2025	– Launched a 26MP ultra-high-resolution AI camer
	– Launched Wisenet 9 SoC and the second-generation X Series camera lineup
	– Achieved 'ISO37001' Anti-Bribery Management System certification
2024	– Joined 'UN Global Compact(UNGC)'
	– Launched Industry's First Dual Sensor BCR Camera
2023	– Changed company name to 'Hanwha Vision'
	– Launched World's First built-in SSD camera, SolidEDGE
	– Vietnam Factory reached cumulative production of 10 million units
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 Series 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

Year	Event
2019	– 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 Series 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
1993	– Developed Korea's first Auto Iris lens for CCTV
1990	– Started video surveillance business, establishment of Hanwha Techwin America

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.

American Innovation Center

Headquarters R&D Center
(Pangyo, Korea)

AI Lab

GLOBAL NETWORK

Hanwha Vision
Europe

Hanwha Vision
(Headquarters, Korea)

Hanwha Vision
America

INNOVATION CENTER

Hanwha Vision
Vietnam

Hanwha Vision
MEA FZE

Hanwha Vision
Mexico

Hanwha Vision
Oceaina

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)
– 12 Branch Offices
– 1 Innovation Center

Scan this QR to view Hanwha Vision's full global network, including subsidiaries and offices.

Scan this QR to view Global Hanwha Vision Innovation and Technology Experience Center (HITE).

HIGH-TECH POWERED IN VIETNAM

Hanwha Vision's manufacturing subsidiary in Vietnam (HVV) has been in operation since 2018 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.

Scan this QR to view Hanwha Vision's competitiveness in Manufacturing & SCM.

Scan this QR to view Hanwha Vision's competitiveness in Quality.

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

SUSTAINABILITY

As a responsible member of society, **Hanwha Vision** seeks to provide fundamental solutions to solve economic, environmental, and social problems and lead positive change through our business, technology, and social activities. Along with this, based on the philosophy of 'Together, further,' **Hanwha Vision** is deeply committed to responsible management, integrating Environmental, Social, and Governance (ESG) principles across its operations. This includes stringent environmental compliance such as RoHS, ISO14001, green purchasing, fostering a positive social impact by respecting employee rights, promoting work-life balance, collaborating with SMEs, and upholding product quality and worker safety such as ISO 9001 and ISO 45001.

Scan this QR to learn more about Hanwha Vision's ESG initiatives.

Scan this QR to view Hanwha Vision's Sustainability Report.

END–TO–END
CYBERSECURITY

View Wisenet 9
Cybersecurity
White Paper

Uncompromising Cyber & Product Reliability

We establish trust through rigorous security engineering. By embedding essential safeguards like secure login and vulnerability management from the very first stage of development, Hanwha Vision meets the world's most stringent benchmarks: ETSI EN 303 645 and IEC 62443–4–1. Experience the next level of product reliability with our globally certified cybersecurity framework.

Robust Hardware & Platform Security

Unassailable Hardware & Platform Integrity Featuring the FIPS 140–3 Level 3 certified 'Secure Element (SE),' our systems support Secure Boot, Secure OS/Storage, Signed Firmware, and Secure JTAG. These integrated layers of defense guarantee system integrity and fundamentally block any unauthorized access.

Root of Trust: Secure Manufacturing

Hanwha Vision has established its own proprietary Device Certificate Issuance System. By embedding unique device certificates during the manufacturing process—not just the development stage—we ensure a complete and foolproof security authentication system from the very moment of shipment.

Software Transparency (SBOM)

Proactive Supply Chain Security via SBOM ensure full transparency by providing a Software Bill of Materials (SBOM). By disclosing every software component, we proactively manage supply chain risks and empower our customers with complete visibility into their security environment.

※ S–CERT: Cyber Security Incident Response Team
For any security–related inquiries or to report an incident, please contact our dedicated team at secure.cctv@hanwha.com.

Tailored Solutions for
EVERY INDUSTRY

At Hanwha Vision, we believe that effective security goes beyond generic products. It's about understanding the unique challenges and opportunities within each vertical market. Hanwha Vision delivers purpose–built vision solutions that are designed to make a real difference. We leverage our deep expertise in hardware design, manufacturing, and cutting–edge software development, including advanced AI analytics and cloud integration, to create solutions precisely tuned to your industry's specific needs. From retail to finances and data center, our comprehensive portfolio offers intelligent insights and robust protection.

Data Center
Proven solutions for safer and smarter data centers

Logistics
Robust solutions for safer logistic management, and across general manufacturing operations

Retail
Solutions to create more secure, efficient, and insightful retail operations

Scan this QR to access detailed information on Hanwha Vision's innovative security solutions for vertical markets.

Scan this QR to discover Hanwha Vision's proven impact across diverse industries.

Oil & Gas
Robust, specialized, and reliable solutions to ensure critical safety and operational excellence in oil & gas

Finance
Advanced, intelligent video solutions securing financial institutions, protecting assets, and optimizing operations

General Manufacturing
Solutions optimizing manufacturing safety, streamlining production, and boosting operational efficiency

Transportation
Solutions enabling safer, smarter and more efficient transportation

Healthcare
Intelligent video solutions enhance patient safety, optimize operations, and secure healthcare facilities effectively

Residential Complex
Enhancing residential safety, managing access, and fostering secure, harmonious community living for complexes

Education
Creating safer learning environments, enhancing campus security, and optimizing operations for education
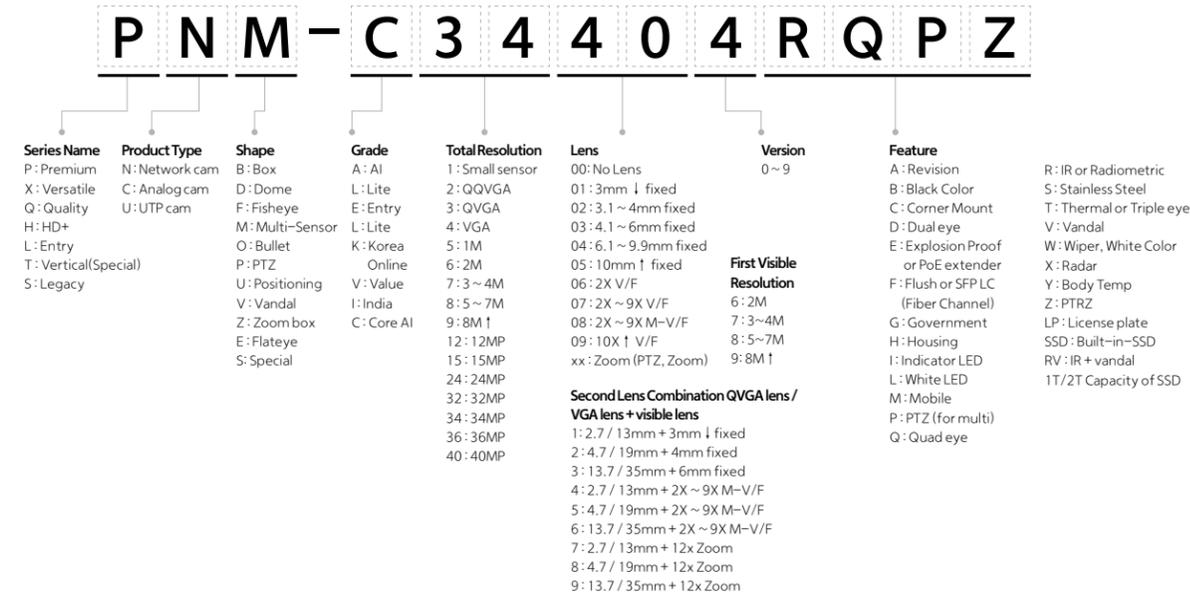
City Surveillance
Empowering smarter cities with advanced surveillance for public safety, traffic management, and urban insights
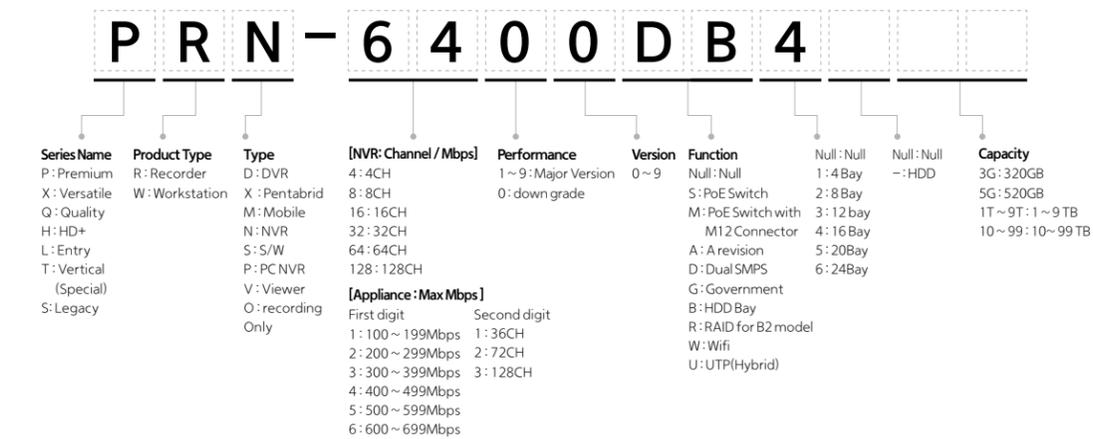
PRODUCT NAMING RULE

Hanwha Vision's product naming system provides a systematic and clear structure to identify our extensive range of security solutions—from advanced cameras to robust video recorders and all accompanying peripherals. Each product name acts as a concise identifier, composed of specific codes that instantly convey its core attributes. For more information, see: Product Naming Rule.

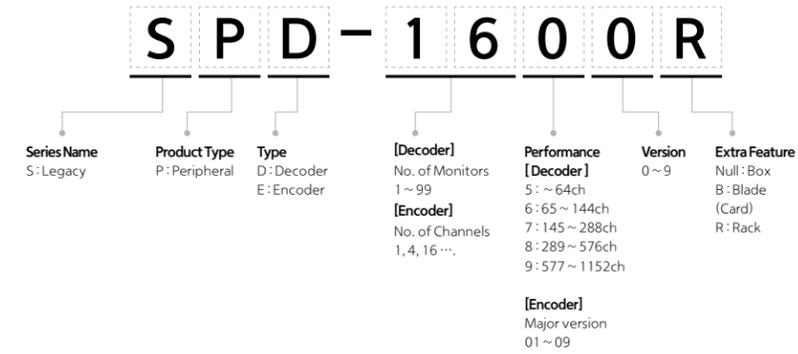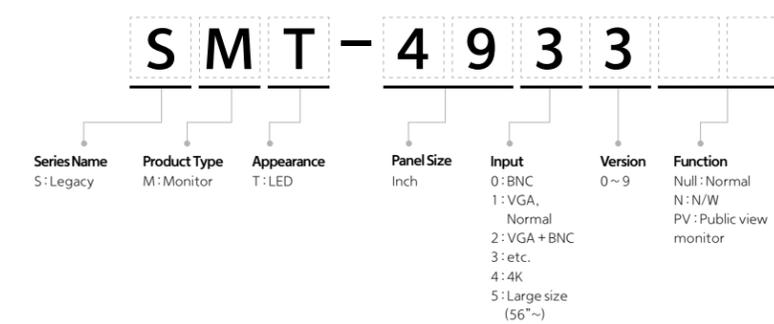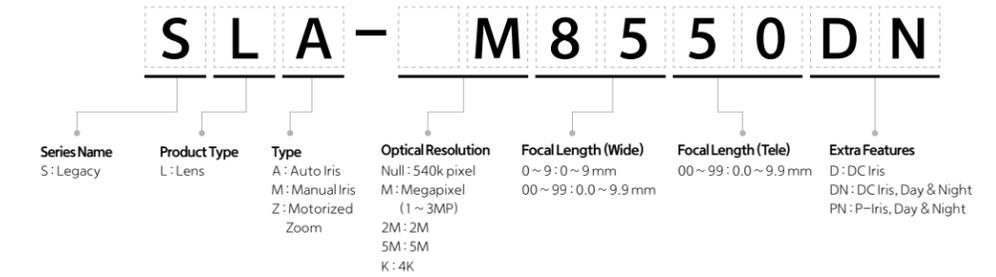## Camera

P N M – C 3 4 4 0 4 R Q P Z

Series Name
P : Premium
X : Versatile
Q : Quality
H : HD+
L : Entry
T : Vertical(Special)
S : Legacy

Product Type
N : Network cam
C : Analog cam
U : UTP cam

Shape
B : Box
D : Dome
F : Fisheye
M : Multi-Sensor
O : Bullet
P : PTZ
U : Positioning
V : Vandal
Z : Zoom box
E : Flateye
S : Special

Grade
A : AI
L : Lite
E : Entry
L : Lite
K : Korea Online
V : Value
I : India
C : Core AI

Total Resolution
1 : Small sensor
2 : QQVGA
3 : QVGA
4 : VGA
5 : 1M
6 : 2M
7 : 3~4M
8 : 5~7M
9 : 8M↑
12 : 12MP
15 : 15MP
24 : 24MP
32 : 32MP
34 : 34MP
36 : 36MP
40 : 40MP

Lens
00 : No Lens
01 : 3mm ↓ fixed
02 : 3.1~4mm fixed
03 : 4.1~6mm fixed
04 : 6.1~9.9mm fixed
05 : 10mm↑ fixed
06 : 2X V/F
07 : 2X~9X V/F
08 : 2X~9X M-V/F
09 : 10X↑ V/F
xx : Zoom (PTZ, Zoom)

Second Lens Combination QVGA lens / VGA lens + visible lens
1 : 2.7 / 13mm + 3mm ↓fixed
2 : 4.7 / 19mm + 4mm fixed
3 : 13.7 / 35mm + 6mm fixed
4 : 2.7 / 13mm + 2X~9X M-V/F
5 : 4.7 / 19mm + 2X~9X M-V/F
6 : 13.7 / 35mm + 2X~9X M-V/F
7 : 2.7 / 13mm + 12x Zoom
8 : 4.7 / 19mm + 12x Zoom
9 : 13.7 / 35mm + 12x Zoom

Version
0~9

First Visible Resolution
6 : 2M
7 : 3~4M
8 : 5~7M
9 : 8M↑

Feature
A : Revision
B : Black Color
C : Corner Mount
D : Dual eye
E : Explosion Proof or PoE extender
F : Flush or SFP LC (Fiber Channel)
G : Government
H : Housing
I : Indicator LED
L : White LED
M : Mobile
P : PTZ (for multi)
Q : Quad eye

R : IR or Radiometric
S : Stainless Steel
T : Thermal or Triple eye
V : Vandal
W : Wiper, White Color
X : Radar
Y : Body Temp
Z : PTRZ
LP : License plate
SSD : Built-in-SSD
RV : IR + vandal
1T/2T Capacity of SSD

Recorder

P R N – 6 4 0 0 D B 4

Series Name
P : Premium
X : Versatile
Q : Quality
H : HD+
L : Entry
M : Mobile
T : Vertical (Special)
S : Legacy

Product Type
R : Recorder
W : Workstation

Type
D : DVR
X : Pentabrid
M : Mobile
N : NVR
S : S/W
P : PC NVR
V : Viewer
O : recording Only

[NVR: Channel / Mbps]
4 : 4CH
8 : 8CH
16 : 16CH
32 : 32CH
64 : 64CH
128 : 128CH

[Appliance : Max Mbps]
First digit
1 : 100~199Mbps
2 : 200~299Mbps
3 : 300~399Mbps
4 : 400~499Mbps
5 : 500~599Mbps
6 : 600~699Mbps

Second digit
1 : 36CH
2 : 72CH
3 : 128CH

Performance
1~9 : Major Version
0 : down grade

Version
0~9

Function
Null : Null
S : PoE Switch
M : PoE Switch with M12 Connector
A : A revision
D : Dual SMPS
G : Government
B : HDD Bay
R : RAID for B2 model
W : Wifi
U : UTP(Hybrid)

Null : Null
1 : 4 Bay
2 : 8 Bay
3 : 12 bay
4 : 16 Bay
5 : 20Bay
6 : 24Bay

Null : Null
– : HDD

Capacity
3G : 320GB
5G : 520GB
1T~9T : 1~9 TB
10~99 : 10~99 TB

Decoder/Encoder

S P D – 1 6 0 0 R

Series Name
S : Legacy

Product Type
P : Peripheral

Type
D : Decoder
E : Encoder

[Decoder]
No. of Monitors
1~99
[Encoder]
No. of Channels
1, 4, 16 ···.

Performance
[Decoder]
5 : ~64ch
6 : 65~144ch
7 : 145~288ch
8 : 289~576ch
9 : 577~1152ch

[Encoder]
Major version
01~09

Version
0~9

Extra Feature
Null : Box
B : Blade (Card)
R : Rack

Monitor

S M T – 4 9 3 3

Series Name
S : Legacy

Product Type
M : Monitor

Appearance
T : LED

Panel Size
Inch

Input
0 : BNC
1 : VGA, Normal
2 : VGA + BNC
3 : etc.
4 : 4K
5 : Large size (56"~)

Version
0~9

Function
Null : Normal
N : N/W
PV : Public view monitor

Lens : CS Mount

S L A – M 8 5 5 0 D N

Series Name
S : Legacy

Product Type
L : Lens

Type
A : Auto Iris
M : Manual Iris
Z : Motorized Zoom

Optical Resolution
Null : 540k pixel
M : Megapixel (1~3MP)
2M : 2M
5M : 5M
K : 4K

Focal Length (Wide)
0~9 : 0~9 mm
00~99 : 0.0~9.9 mm

Focal Length (Tele)
00~99 : 0.0~9.9 mm

Extra Features
D : DC Iris
DN : DC Iris, Day & Night
PN : P–Iris, Day & Night

Lens : Remote Head

S L A – T 4 6 8 0 V

Series Name
S : Legacy

Product Type
L : Lens

Type
A : Auto Iris
M : Manual Iris
Z : Motorized Zoom

Pixel Resolution
T : 2MP Remote Head (Two)

Focal Length
00~99 : 0.0~9.9 mm

Cable Length
00~99 : 0.0~9.9 mm

Shape
Null : Cylinder
F : Fisheye
V : Flat Cube

NETWORK · VIDEO RECORDERS · CLOUD · PERIPHERALS · ACCESS CONTROL · IP AUDIO · ANALOG

	XNV-A9085R 8MP AI IR Modular Vandal Dome Camera	XND-A9085RV 8MP AI IR Modular Dome Camera	XNV-A8085R 5MP AI IR Modular Vandal Dome Camera	XND-A8085RV 5MP AI IR Modular Dome Camera
Imaging Device	1/1.8" CMOS		1/2.8" CMOS	
Resolution / Max. Frame Rate	8MP / 30fps		5MP / 30fps	
Min. Illumination	Color: 0.04Lux(F1.3, 1/30sec, 30IRE), BW: 0.004Lux(F1.3, 1/30sec, 30IRE)			
Video Out	USB Type C. Preview and installation ONLY. Requires WiFi dongle.			
Focal Length (Zoom Ratio)	4.4~9.3mm (2.1x) motorized varifocal		3.3~9.3mm (2.8x) motorized varifocal	
Angular Field of View	H: 113° (Wide)~47° (Tele), V: 58° (Wide)~26° (Tele), D: 138° (Wide)~54° (Tele)		H: 99° (Wide)~31° (Tele), V: 71° (Wide)~23° (Tele), D: 133° (Wide)~39° (Tele)	
Pan / Tilt / Rotate Range	0°~360° / -45°~85° / 0°~355°			
IR Viewable Length	WiseIR/PoE+: 50m(164.04ft), PoE: 30m(98.43ft)			
Day & Night	Auto(ICR)			
Wide Dynamic Range	Extreme WDR(120dB)			
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNRV			
Digital Image Stabilization	Support			
Analytics	Classified object type: Person/Face/Vehicle/License plate · Attributes: Person(Upper/Lower clothes color, Gender, Bag), Vehicle(Car, Bus, Truck, Motocycle, Bicycle/Color), Face(Age, Gender, Face mask, glasses) · Support BestShot · Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear) · Analytics events: Defocus detection, Tampering, Audio detection, Shock detection			
Business Intelligence	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting			
Alarm I/O	2 configurable I/O ports *Support extra alarm I/O via optional I/O box			
Audio I/O	Selectable(mic in/line in) / Line out			
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	WiseStream(Based on AI engine)			
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 5 profiles, 3 virtual channel support)			
Edge Storage	Max. 1TB x 2slot(Total 2TB)			
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform			
Operating Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / 0~100% RH(condensing) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above-30°C, Humidity control with AIR vent	-25°C ~ +50°C(-13°F ~ +122°F) / 0 ~ 100% RH(condensing) Humidity control with AIR vent	-50°C ~ +60°C(-58°F ~ +140°F) / 0~100% RH(condensing) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above-30°C, Humidity control with AIR vent	-25°C~+50°C(-13°F~+122°F) / 0~100% RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, IP6K9K, NEMA4X, IK11, NEMA-TS 2 (2.2.7.2~8, 2.2.8, 2.2.9)	IP52, IK10	IP66, IP67, IP6K9K, NEMA4X, IK11, NEMA-TS 2 (2.2.7.2~8, 2.2.8, 2.2.9)	IP52, IK10
Power Consumption		PoE+ : Max. 14.2W, typical 9.4W PoE : Max. 12.9W, typical 8.3W 12VDC: Max. 9.5W, typical 14.5W		PoE+ : Max. 14.2W, typical 9.4W PoE : Max. 12.9W, typical 8.3W 12VDC: Max. 9.5W, typical 14.5W
Product Dimensions / Weight	ø180x125mm(ø7.09x4.92") / 1,860g(4.10lb)	ø160x125mm(ø6.30x4.92") / 1,560g(3.44 lb)	ø180x125mm(ø7.09x4.92") / 1,860g(4.10 lb)	ø160x125mm(ø6.30x4.92") / 1,560g(3.44 lb)

	XNV-A9084R 8MP AI IR Vandal Dome Camera	XND-A9084RV 8MP AI IR Dome Camera	XNO-A9084R 8MP AI IR Bullet Camera	XNV-A8084R 5MP AI IR Vandal Dome Camera	XND-A8084RV 5MP AI IR Dome Camera
Imaging Device	1/1.8" CMOS	1/1.8" CMOS	1/1.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	8MP / 30fps	8MP / 30fps	8MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.04Lux(F1.3, 1/30sec, 30IRE), BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)				
Video Out	USB Type C. Preview and installation ONLY.				
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	3.3~9.3mm(2.8x) motorized varifocal	3.3~9.3mm(2.8x) motorized varifocal
Angular Field of View	H: 113° (Wide)~47° (Tele), V: 58° (Wide)~26° (Tele), D: 138° (Wide)~54° (Tele)	H: 113° (Wide)~47° (Tele), V: 58° (Wide)~26° (Tele), D: 138° (Wide)~54° (Tele)	H: 113° (Wide)~47° (Tele), V: 58° (Wide)~26° (Tele), D: 138° (Wide)~54° (Tele)	H: 99° (Wide)~31° (Tele), V: 71° (Wide)~23° (Tele), D: 133° (Wide)~39° (Tele)	H: 99° (Wide)~31° (Tele), V: 71° (Wide)~23° (Tele), D: 133° (Wide)~39° (Tele)
Pan / Tilt / Rotate Range	0°~360° / 0°~75° / 0°~355°	0°~360° / 0°~75° / 0°~355°	0°~360° / 0°~90° / 0°~355°	0°~360° / 0°~75° / 0°~355°	0°~360° / 0°~90° / 0°~355°
IR Viewable Length	WiseIR 50m(164.04ft)				
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNRV				
Digital Image Stabilization	Support				
Analytics	Classified object type: Person/Face/Vehicle/License plate · Attributes: Person(Gender, Clothing top/bottom Color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Car/Bus/Truck/Motorcycle/Bicycle, Color), · Support BestShot · Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection · Analytics events: Defocus detection, Tampering, Shock detection, Audio detection				
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap				
Alarm I/O	2 configurable I/O ports *Support extra alarm I/O via optional I/O box				
Audio I/O	Selectable(mic in/line in) / Line out				
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG				
WiseStream	WiseStream(Based on AI engine)				
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 5 profiles, 3 virtual channel support)				
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-40°C ~ +50°C(-40°F ~ +122°F) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7), * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	-10°C ~ +50°C(-14°F ~ +122°F) / 0~100%RH(Condensing) Humidity control with AIR vent	-40°C ~ +60°C(-40°F ~ +140°F) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7), * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	-40°C ~ +50°C(-40°F ~ +122°F) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	-10°C ~ +50°C(-14°F ~ +122°F) / 0~100%RH(Condensing) Humidity control with AIR vent
Certification	IP66, IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2~8, 2.2.8, 2.2.9)	IP52, IK10	IP66, IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2~8, 2.2.8, 2.2.9)		IP52, IK10
Power Consumption	PoE: Max.11.2W, typical 8.4W, Support Wisepower, Power monitoring(Max./Current/Avg.), ECO mode	PoE: Max. 11.2W, typical 8.4W, Support Wisepower, Power monitoring(Max./Current/Avg.), ECO mode	PoE: Max. 11.2W, typical 8.4W, Support Wisepower, Power monitoring(Max./Current/Avg.), ECO mode	PoE: Max. 9.4W, typical 7.0W, Support Wisepower, Power monitoring(Max./Current/Avg.), ECO mode	PoE: Max. 9.4W, typical 7.0W, Support Wisepower, Power monitoring(Max./Current/Avg., ECO mode
Product Dimensions / Weight	ø160x118mm(6.30x4.65"), 1,220g(2.69lb)	ø160x118mm(6.30x4.65"), 1,020g(2.25lb)	ø93.4x276.6mm(3.68x10.89"), 1,630g(3.59lb)	ø160x118mm(6.30x4.65"), 1,210g(2.67lb)	ø160x118mm(6.30x4.65"), 1,010g(2.23lb)

AI Camera (Page 14)

	XNO-A8084R 5MP AI IR Bullet Camera	XNV-A6084R 2MP AI IR Vandal Dome Camera	XND-A6084RV 2MP AI IR Dome Camera	XNO-A6084R 2MP AI IR Bullet Camera
Imaging Device	1/2.8" CMOS			
Resolution / Max. Frame Rate	5MP / 30fps	2MP / 30fps		
Min. Illumination	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE)	Color: 0.02Lux(F1.3, 1/30sec, 30IRE) BW: 0.002Lux(F1.3, 1/30sec, 30IRE)		
Video Out	USB: Micro USB Type C for installation	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	3.3~9.3mm(2.8x) motorized varifocal	2.8~12mm(4.3x) motorized varifocal		
Angular Field of View	H: 99° (Wide) ~ 31° (Tele) V: 71° (Wide) ~ 23° (Tele) D: 133° (Wide) ~ 39° (Tele)		H: 120° (Wide) ~ 27° (Tele) V: 63° (Wide) ~ 15° (Tele) D: 143° (Wide) ~ 32° (Tele)	
Pan / Tilt / Rotate Range	0° ~ 360° / 0° ~ 90° / 0° ~ 355°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 350° / 0° ~ 75° / 0° ~ 355°	0° ~ 350° / 0° ~ 90° / 0° ~ 350°
IR Viewable Length	WiseIR 50m(164.04ft)			
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB	150dB		
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V			
Digital Image Stabilization	Support			
Analytics	**Classified object type:** Person/Face/Vehicle/License plate **Attributes:** Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Car/Bus/Truck/Motorcycle/Bicycle/Color) **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection **Analytics events:** Defocus detection, Tampering, Shock detection, Audio detection			
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap	Based on AI engine: People counting, Queue management, Heatmap, Vehicle counting, Crowd counting		
Alarm I/O	2 configurable I/O ports *Support extra alarm I/O via optional I/O box			
Audio I/O	Selectable(mic in/line in) / Line out			
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	WiseStream(Based on AI engine)			
Streaming	Unicast(20 users) / Multicast/Multiple streaming (Up to 5 profiles, 3 virtual channel support)	Unicast(20 users) / Multicast(Support)/Multiple streaming (Up to 5 profiles, 3 virtual channel support)		
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB	Max. 1TB x 1slot(Total 1TB)		
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) +74°C(+165° F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C, 0~100%RH (Condensing), Humidity control with AIR vent	-40°C~+50°C(-40°F~+131°F) 0~100% RH(condensing) Humidity control with AIR vent	-10°C ~ +50°C(+14°F ~ +122°F) +74°C(+165° F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C, 0~100%RH (Condensing), Humidity control with AIR vent	-40°C ~ +60°C(-40°F ~ +140°F) +74°C(+165° F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C, 0~100%RH (Condensing), Humidity control with AIR vent
	IP66, IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2-8, 2.2.8, 2.2.9)	IP66, IP67, NEMA4X, IK10, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9)	IP52, IK10	IP66, IP67, NEMA4X, IK10, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9)
Power Consumption	PoE: Max. 9.4W, typical 7.0W Support Wisepower, Power monitoring (Max./Current/Avg.), ECO mode	PoE: Max. 10.2W, typical 5.0W WisePower, Power monitoring, Eco mode		
Product Dimensions / Weight	ø 93.4x276.6mm(3.68x10.89"), 1,630g(3.59lb)	ø 160x118mm(6.30x4.65"), 1,243g(2.74lb)	ø 160x118mm(6.30x4.65"), 1,032g(2.27lb)	ø 93.4x276.6mm(3.68x10.89"), 1,660g(3.66lb)

AI Camera (Page 15)

	XNV-A9084RS 8MP Stainless Steel AI IR Vandal Dome Camera	XNV-A8084RS 5MP Stainless Steel AI IR Vandal Dome
Imaging Device	1/1.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE)
Video Out	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.
Focal Length (Zoom Ratio)	4.4~9.3mm(2.1x)	3.3~9.3mm(2.8x)
Angular Field of View	H: 113° (Wide) ~ 47° (Tele) V: 58° (Wide) ~ 26° (Tele) D: 138° (Wide) ~ 54° (Tele)	H: 99° (Wide) ~ 31° (Tele) V: 71° (Wide) ~ 23° (Tele) D: 133° (Wide) ~ 39° (Tele)
Pan / Tilt / Rotate Range	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	
IR Viewable Length	WiseIR 50m(164.04ft)	
Day & Night	Auto(ICR)	
Wide Dynamic Range	120dB	
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V	
Digital Image Stabilization	Support	
Analytics	**Classified object type:** Person, Face, Vehicle, License plate **Attributes:** Person(Upper/Lower clothes color, Gender, Bag), Vehicle(Type(car, bus, truck, motorcycle, bicycle), Color), Face(Age, Gender, Face mask, Glasses) **Support BestShot** **Analytics events based on AI engine:** Object detection, Virtual line(Crossing/Direction), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtualarea(Loitering/Intrusion/Enter/Exit/Appear/Disappear) **Analytics events:** Defocus detection, Tampering, Audio detection, Shock detection	
Business Intelligence	Based on AI engine: People counting, Queue management, Heatmap, Vehicle counting, Crowd counting	
Alarm I/O	2 configurable I/O ports *Support extra alarm I/O via optional I/O box	
Audio I/O	Selectable(mic in/line in) / Line out	
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	
WiseStream	WiseNR II (Based on AI engine), SSNR V	
Streaming	Unicast(Up to 20 users) / Multicast(Support)/Multiple streaming (Up to 5 profiles, 3 virtual channel support)	
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB	
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API, **Hanwha Vision** Open Platform	
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) 0~100% RH(condensing)	-40°C~+50°C(-40°F~+122°F) 0~100% RH(condensing)
Certification	IP66, IP67, IP68, NEMA4X, IK10 NEMA TS-2 (2.2.7.2-8, 2.2.8, 2.2.9)	IP66, IP67, IP68, NEMA4X, IK11 NEMA TS-2 (2.2.7.2-8, 2.2.8, 2.2.9)
Power Consumption	PoE: Max. 11.2W, typical 8.4W	
Product Dimensions / Weight	ø 160x118mm(6.30x4.65"), 1,220g(2.69lb)	ø 160x120mm(6.89x4.72"), 2,010g(4.43lb)

AI Camera (page 16)

	XNB-A9004 8MP AI Box Camera	XNB-A8004 5MP AI Box Camera	XNB-A6004 2MP AI Box Camera
Imaging Device	1/1.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps	30fps
Min. Illumination	Color(1/30sec, 30IRE) 0.04 BW(1/30sec, 30IRE) 0.004		Color(1/30sec, 30IRE) 0.02 BW(1/30sec, 30IRE) 0.002
Video Out	USB: Micro USB Type C for installation		
Focal Length (Zoom Ratio)	–		
Angular Field of View	–	–	N/A
Pan / Tilt / Rotate Range	–		
IR Viewable Length	–		
Day & Night	Auto(ICR)		
Wide Dynamic Range	120dB	120dB	150dB
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V		
Digital Image Stabilization	Support		
Analytics	**Classified object type:** Person/Face/Vehicle(Type: car/bus/truck/motorcycle/bicycle)/License plate **Attributes:** Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) **Support BestShot** **Support Re-ID(Person)** **Analytics events based on AI engine** – Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection, Sound classification(To be released) **Analytics events** – Defocus detection, Tampering, Shock detection, Audio detection		
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap		
Alarm I/O	2 configurable I/O ports *Support extra alarm I/O via optional I/O box		
Audio I/O	Selectable(mic in/line in/built-in mic), Line out		
Video Compression	H.265/H.264: Main/Baseline/High MJPEG		
WiseStream	WiseStream(Based on AI engine)	WiseStream(Based on AI engine)	SSNR V, WiseNR II (Based on AI engine)
Streaming	Unicast(20 users) / Multicast Multiple streaming (Up to 5 profiles, 3 virtual channel support)		
Edge Storage	Micro SD/SDHC/SDXC 2 slots (Up to 1TB per slot)		
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform Oncloud edge recording, compatible with Hanwha SD cards up to 1TB		
Operating Temperature / Humidity	-10°C~+55°C(+14°F~+131°F) / 0~95%RH(non-condensing)		
Certification	–		
Power Consumption	PoE: Max. 10.7W, typical 9.5W 12VDC: Max. 9.9W, typical 8.7W Support Wisepower – Power monitoring(Max./Current/Avg.) – Power logging Power redundancy failover	PoE: Max. 8.9W, typical 7.5W 12VDC: Max. 8.1W, typical 6.7W Support Wisepower – Power monitoring(Max./Current/Avg.) – Power logging Power redundancy failover	PoE: Max. 7.5W, typical 6.0W 12VDC: Max. 6.9W, typical 5.6W Support Wisepower – Power monitoring(Max./Current/Avg.) – Power logging Power redundancy failover
Product Dimensions / Weight	81(W)×67(H)×165(D)mm(3.19x2.64x6.48"), Weight 851g(1.88lb)		

AI Camera (page 17)

	XNB-A8004B 5MP Remote Head Cam & Lens modules	SLA-F4780A 5MP Lens Module	SLA-F4780VA 5MP Lens Module	SLA-F2480A 5MP Lens Module
Imaging Device	–	1/2.8" CMOS		
Resolution / Max. Frame Rate	5MP / 30fps	5MP		
Min. Illumination	–	Color: 0.09Lux(F1.3, 1/30sec, 30IRE) BW: 0.09Lux(F1.3, 1/30sec, 30IRE)	Color: 0.09Lux(F1.3, 1/30sec, 30IRE) BW: 0.09Lux(F1.3, 1/30sec, 30IRE)	Color: 0.08Lux(F1.3, 1/30sec, 30IRE) BW: 0.08Lux(F1.3, 1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.	–	–	–
Focal Length (Zoom Ratio)	–	4.72mm	4.72mm	2.45mm
Angular Field of View	–	70° / 50° / 96°	70° / 50° / 96°	122° / 90° / 158°
Pan / Tilt / Rotate Range	–	–	–	–
IR Viewable Length	–	–	–	–
Day & Night	Auto(Electrical)	–	–	–
Wide Dynamic Range	120dB	–	–	–
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V	–	–	–
Digital Image Stabilization	Support	–	–	–
Analytics	**Classified object type:** Person, Face, Vehicle, License plate **Attributes:** Person(Upper/Lower clothes color, Gender, Bag), Vehicle(Type(car, bus, truck, motorcycle, bicycle), Color), Face(Age, Gender, Face mask, Glasses) **Support BestShot** **Analytics events based on AI engine:** Object detection, Virtual line(Crossing/Direction), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtualarea(Loitering/Intrusion/Enter/Exit/Appear/Disappear) **Analytics events:** Defocus detection, Tampering, Audio detection, Shock detection	–	–	–
Business Intelligence	–	–	–	–
Alarm I/O	2 configurable I/O ports	–	–	–
Audio I/O	Selectable(mic in/line in), Line out	–	–	–
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	–	–	–
WiseStream	WiseNR II (Based on AI engine), SSNR V	–	–	–
Streaming	Unicast(Up to 20 users) / Multicast(Support)/Multiple streaming (Up to 5 profiles, 3 virtual channel support)	–	–	–
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB	–	–	–
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API, **Hanwha Vision** Open Platform	–	–	–
Operating Temperature / Humidity	-10°C~+50°C(+14°F~+122°F) 0~95% RH(non-condensing)	-10°C ~ +55°C (+14°F ~ +131°F) 0~95% RH		
Certification	IEC/EN 63000, IEC 60529 IP3X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC60068-2-14, IEC 60068-2-27, IEC 60068-2-78	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC60068-2-78	None, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC60068-2-78
Power Consumption	PoE: Max. 9.4W, typical 7.0W(TBD)	–	–	–
Product Dimensions / Weight	131.1(W)×33.5(H)×86(D)mm(5.16x1.32x3.39"), 420g(0.93lb)	∅ 24x44.9mm(∅ 0.94x1.77"), Cable: 8m(26.2ft) 34.2g(0.08lb), Cable: 350g(0.77lb)	30(W)x20.5(H)x45(D)mm(1.18x0.81x1.77"), Cable: 8m(26.2ft), 44.4g(0.1lb), Cable: 350g(0.77lb)	∅ 24x46.6mm(∅ 0.94x1.83"), Cable: 8m(26.2ft) 35g(0.08lb), Cable: 350g(0.77lb)

NETWORK

VIDEO RECORDERS

CLOUD

PERIPHERALS

ACCESS CONTROL

IP AUDIO

ANALOG

	SLA-F2480VA 5MP Lens Module	SLA-F2480WA 5MP Waterproof Lens Module	SLA-F2480WDA 5MP Waterproof Dome Lens Module	SLA-F2480BA 5MP Bandit Barrier Lens Module
Imaging Device	1/2.8" CMOS			
Resolution / Max. Frame Rate	5MP			
Min. Illumination	Color: 0.08Lux(F1.3, 1/30sec, 30IRE) BW: 0.08Lux(F1.3, 1/30sec, 30IRE)	Color: 0.1Lux(F1.3, 1/30sec, 30IRE) BW: 0.1Lux(F1.3, 1/30sec, 30IRE)	Color: 0.08Lux(F1.3, 1/30sec, 30IRE) BW: 0.08Lux(F1.3, 1/30sec, 30IRE)	Color: 0.08Lux(F1.3, 1/30sec, 30IRE) BW: 0.08Lux(F1.3, 1/30sec, 30IRE)
Video Out	-	-	-	-
Focal Length (Zoom Ratio)	2.45mm	2.4mm	2.45mm	2.45mm
Angular Field of View	122° / 90° / 158°	128° / 92° / 172°	123° / 91° / 159°	123° / 91° / 159°
Pan / Tilt / Rotate Range	-	-	-	-
IR Viewable Length	-	-	-	-
Day & Night	-	-	-	-
Wide Dynamic Range	-	-	-	-
Digital Noise Reduction	-	-	-	-
Digital Image Stabilization	-	-	-	-
Analytics	-	-	-	-
Business Intelligence	-	-	-	-
Alarm I/O	-	-	-	-
Audio I/O	-	-	-	-
Video Compression	-	-	-	-
WiseStream	-	-	-	-
Streaming	-	-	-	-
Edge Storage	-	-	-	-
Application Programming Interface	-	-	-	-
Operating Temperature / Humidity	−10°C ~ +55°C (+14°F ~ +131°F) 0~95% RH	−30°C ~ +55°C (−22°F ~ +131°F) 0~95% RH	−30°C ~ +55°C (−22°F ~ +131°F) 0~95% RH	−10°C ~ +55°C (+14°F ~ +131°F) 0~95% RH
Certification	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC60068-2-78	IEC 60529 IP66, NEMA 250 type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC60068-2-14, IEC 60068-2-27, IEC 60068-2-78	IEC 60529 IP66, NEMA 250 type 4X, IEC 62262 IK10, IEC 60068-2-1, IEC 60068-2-2, IEC60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78	None, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC60068-2-78
Power Consumption	-	-	-	-
Product Dimensions / Weight	30(W)x24.7(H)x45(D)mm(1.18x0.97x1.77"), Cable: 8m(26.2ft) 46.1g(0.1lb), Cable: 350g(0.77lb)	Lens: ⌀35x63.2mm(⌀1.38x2.49"), Cable: 8m(26.2ft) Lens: 102.3g(0.23lb), Cable: 350g(0.77lb)	⌀110.0x77.0mm(⌀3.54x2.36"), Cable: 8m(26.2ft) 455g(1.00lb), Cable: 350g(0.77lb)	Bandit Barrier: 66.5x46x175~688mm (2.62x1.81x6.89~27.09"), Cable: 8m(26.2ft) Bandit Barrier: 208~1,310g(0.46~2.89lb), Cable: 350g(0.77lb)

	XNV-A9016R 4K AI IR Compact Vandal Dome Camera	XNV-A8016R 5MP AI IR Compact Vandal Dome Camera	XNV-A6016R 2MP AI IR Compact Vandal Dome Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps	2MP/60fps
Min. Illumination	Color: 0.1Lux(F1.3, 1/30sec, 30IRE) BW: 0.01Lux(F1.3, 1/30sec, 30IRE)	Color: 0.06Lux(F1.3, 1/30sec, 30IRE) BW: 0.006Lux(F1.3, 1/30sec, 30IRE)	Color: 0.027Lux(F1.3, 1/30sec, 30IRE) BW: 0.0027Lux(F1.3, 1/30sec, 30IRE)
Video Out	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	3.0mm		
Angular Field of View	H: 108° / V: 59° / D: 127°	H: 100° / V: 74° / D: 130°	H: 108° / V: 59° / D: 127°
Pan / Tilt / Rotate Range	0° ~ 351° / 0° ~ 64° / ±90°		
IR Viewable Length	25m(82.02ft)		
Day & Night	Auto(ICR)		
Wide Dynamic Range	120dB	120dB	150dB
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNRV		
Digital Image Stabilization	Support		
Analytics	**Classified object type:** Person, Face, Vehicle, License plate **Attributes:** Person(Upper/Lower clothes color, Gender, Bag), Vehicle(Type(car, bus, truck, motorcycle, bicycle), Color), Face(Age, Gender, Face mask, Glasses) **Support BestShot** **Analytics events based on AI engine:** Object detection, Virtual line(Crossing/Direction), Motion detection, Face maskdetection, Social distancing detection, Slip & fall detection, Virtualarea(Loitering/Intrusion/Enter/Exit/Appear/Disappear) **Analytics events:** Defocus detection, Tampering, Audio detection		
Business Intelligence	Based on AI engine: People counting, Queue management, Heatmap, Vehicle counting, Crowd counting		
Alarm I/O	Support alarm I/O via optional I/O box		
Audio I/O	Support via optional I/O box		
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	Manual, WiseStream(Based on AI engine)		
Streaming	Unicast(Up to 20 users) / Multicast(Support)/Multiple streaming (Up to 5 profiles)		
Edge Storage	Micro SD/SDHC/SDXC 1slot 1TB		
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API, **Hanwha Vision** Open Platform		
Operating Temperature / Humidity	−40°C~+50°C(−40°F~+122°F) 0~100% RH(condensing) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7), Start up should be done at above −30°C	−40°C~+55°C(−40°F~+131°F) 0~100% RH(condensing) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7), Start up should be done at above −30°C	
Certification	IP66, IK10, NEMA 250 type 4X	IP66, IK10, NEMA 250 type 4X	IP66, IK10, NEMA 250 type 4X
Power Consumption	PoE : Max. 10.0W, typical 7.7W	PoE : Max. 7.9W, typical 6.2W	PoE : Max. 6.6W, typical 4.8W
Product Dimensions / Weight	⌀120x65.5mm(⌀4.72x2.58"), 555g(1.22lb)		

AI Camera

	XNV-9083RZ 8MP AI IR Vandal Dome Camera	XNV-9083R 8MP AI IR Vandal Dome Camera	XND-9083RV 8MP AI IR Dome Camera	XNO-9083R 8MP AI IR Bullet Camera
Imaging Device	1/1.8" CMOS			
Resolution / Max. Frame Rate	8MP / 30fps			
Min. Illumination	Color: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE) 0Lux(IR LED on)		
Video Out	–	CVBS: 1.0 Vp-p / 75Ω 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			
Angular Field of View	H: 113° (Wide) ~ 47° (Tele) V: 58° (Wide) ~ 26° (Tele) D: 138° (Wide) ~ 54° (Tele)			
Pan / Tilt / Rotate Range	Remote adjustment(Max. 200cycles) 0° ~ 350° / 0° ~ 85° / 0° ~ 340°	0° ~ 360° / 0° ~ 85° / 0° ~ 355°	0° ~ 360° / 0° ~ 85° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 355°
IR Viewable Length	WiseIR 15m(49.21ft) 30m(98.43ft) wall installation scenario	WiseIR 50m(164.04ft)	WiseIR 50m(164.04ft)	WiseIR 50m(164.04ft)
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V			
Digital Image Stabilization	Support			
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle(Car/Bus/Truck/Motorcycle/Bicycle, Color) Support DetectionShot Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Analytics events: Defocus 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, Queue management, Heatmap		
Alarm I/O	–	2 configurable I/O ports DC 12V output(Max. 50mA)		
Audio I/O	Support via optional I/O box	Selectable(mic in/line in) / Line out		
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	Manual, WiseStream III			
Streaming	Up to 10 profiles, 3 virtual channel support			
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)			
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) * Start up should be done at above -30°C 0~100%RH(condensing) Humidity control with AIR vent	-25°C ~ +50°C(-13°F ~ +122°F) 0~100% RH(condensing) Humidity control with AIR vent	-50°C ~ +55°C(-58°F ~ +131°F) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C, 0~100%RH (condensing) Humidity control with AIR vent	
Certification	IP66, IP67, IP6K9K, NEMA 250 type 4X, IK10+	IP66, IP67, IP6K9K, NEMA 250 type 4X, IK10+	IP52, IK10	IP66, IP67, NEMA4X, IK10
Power Consumption	PoE+: Max 22.5W, typical 12.1W	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20.0W, typical 15.6W Power redundancy failover support	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20.0W, typical 15.6W Power redundancy failover support	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20.0W, typical 15.6W Power redundancy failover support
Product Dimensions / Weight	ø180x135mm(ø 7.09x5.31"), 2,000g(4.41 lb)	ø 180x125mm(ø 7.09x4.92"), 1,900g(4.19 lb)	ø 160x125mm(ø 6.30x4.92"), 1,600g(3.53 lb)	ø93.4x298.4mm(ø 3.68x11.75"), 2,200g(4.85 lb)

AI Camera

	XNF-A9014RV 12MP AI IR Fisheye Camera	XNF-A9014R 12MP AI IR Fisheye Camera	XNF-A8014RV 6MP AI IR Fisheye Camera	XNF-A8014R 6MP AI IR Fisheye Camera
Imaging Device	1/1.6" CMOS			
Resolution / Max. Frame Rate	12MP / 5fps			
Min. Illumination	Color: 0.02Lux(F1.3, 1/30sec, 30IRE), BW: 0.001Lux(F1.3, 1/30sec, 30IRE)			
Video Out	–			
Focal Length (Zoom Ratio)	1.76mm			
Angular Field of View	H: 185° / V: 185°/ D: 185°			
Pan / Tilt / Rotate Range	– / – / Digital Rotation			
IR Viewable Length	WiseIR up to 20m(65.61ft)		WiseIR up to 17m(55.77ft)	
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V			
Digital Image Stabilization	Support			
Analytics	AnIalytics Classified object type: Person/Face/Vehicle/License plate Attributes: Person(Upper/lower clothes color), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) Support BestShot Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear) Analytics events: Defocus detection, Tampering, Shock detection, Audio detection			
Business Intelligence	Based on AI Engine: People counting, Queue management, Heatmap, Vehicle counting, Crowd counting			
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional I/O box			
Audio I/O	Selectable(mic in/line in), Built-in 3mics, Line out			
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	WiseStream(Based on AI engine)			
Streaming	Unicast(Up to 20 users) / Multicast(Support) / Multiple streaming (Up to 5 profiles)			
Edge Storage	Micro SD/SDHC/SDXC Max. 1TB x 1slot			
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API), Hanwha Vision Open Platform			
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) 0~100% RH(condensing)	-10°C~+55°C(+14°F~+131°F) 0~95% RH(non-condensing)	-40°C~+55°C(-40°F~+131°F) 0~100% RH(condensing)	-10°C~+55°C(+14°F~+131°F) 0~95% RH(non-condensing)
Certification	IP 66, IK10, NEMA TS-2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X	IP42	IP 66, IK10, NEMA TS-2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X	IP42
Power Consumption	PoE : Max. 19.8W, typical 10.5W 12VDC: Max. 20W, typical 10.9W		PoE : Max. 19.8W, typical 10.5W 12VDC: Max. 20W, typical 10.9W	
Product Dimensions / Weight	ø 160x75mm(6.23x2.95"), 1,020g(2.25 lb)	ø 160x60.4mm(6.23x2.38"), 1,000g(2.20lb)	ø 160x75mm(6.23x2.95"), 1,020g(2.25 lb)	ø160x60.4mm(6.23x2.38"), 1,000g(2.20lb)

	XNF-9013RV 12MP AI Fisheye Camera	XNV-8083RZ 6MP AI IR Vandal Dome Camera	XNV-8083Z 6MP AI Vandal Dome Camera
Imaging Device	1/2.3" 12MP CMOS	1/1.8" CMOS	1/1.8" CMOS
Resolution / Max. Frame Rate	12MP / 30fps	6MP / 30fps	6MP / 30fps
Min. Illumination	Color: 0.39 Lux (F2.2, 1/30sec) BW : 0.039 Lux(IR LED on)	Color: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE)
Video Out	CVBS : 1.0 Vp-p / 75Ω composite for installation USB: Micro USB Type B	–	–
Focal Length (Zoom Ratio)	1.08mm	4.4~9.3mm(2.1x) varifocal	4.4~9.3mm(2.1x) varifocal
Angular Field of View	H: 187° / V: 187° / D: 187°	H: 113° (Wide) ~ 47° (Tele), V: 58° (Wide) ~ 26° (Tele), D: 138° (Wide) ~ 54° (Tele)	H: 113° (Wide) ~ 47° (Tele), V: 58° (Wide) ~ 26° (Tele), D: 138° (Wide) ~ 54° (Tele)
Pan / Tilt / Rotate Range	Lens Rotation	Remote adjustment(Max. 200cycles) 0° ~ 350° / 0° ~ 85° / 0° ~ 340°	0° ~ 350° / 0° ~ 85° / 0° ~ 340°
IR Viewable Length	WiseIR, PoE : 8m(26.25ft), PoE+ : 13m(42.65ft)	15m(49.21ft) 30m(98.43ft) wall installation scenario	–
Day & Night	Auto(ICR)		
Wide Dynamic Range	extremeWDR (120dB)		
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V		
Digital Image Stabilization	–	Support	Support
Analytics	**Classified object type:** Person/Face/Vehicle/ License plate **Analytics events based on AI engine:** Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit) **Support DetectionShot** **Analytics events :** Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Virtual area(Appear/Disappear)	**Classified object type:** Person/Face/Vehicle/ License plate **Attributes:** Vehicle(Type: car/bus/truck/motorcycle/bicycle) **Support DetectionShot** **Analytics events based on AI engine:** Object detection, Virtual line(Crossing/ Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection **Analytics events:** Defocus detection, Tampering, Fog detection, Audio detection, Sound classification, Virtual area(Appear/Disappear)	**Classified object type:** Person/Face/Vehicle/ License plate **Attributes:** Vehicle(Type: car/bus/truck/motorcycle/bicycle) **Support DetectionShot** **Analytics events based on AI engine:** Object detection, Virtual line(Crossing/ Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection **Analytics events:** Defocus detection, Tampering, Fog detection, Audio detection, Sound classification, Virtual area(Appear/Disappear)
Business Intelligence	Based on AI engine: People/Vehicle counting, Queue management, Heatmap	Based on AI engine: People/Vehicle counting	Based on AI engine: People/Vehicle counting
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: Main/Baseline/High, MJPEG		
WiseStream	Manual, WiseStream III (Based on AI engine)		
Streaming	Up to 10 profiles	Unicast(20 users) / Multicast / Multiple 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), **Hanwha Vision** Open Platform		
Operating Temperature / Humidity	-40°C ~ +60°C (-40°F ~ +140°F) / 0~95% RH(non-condensing)	-50°C ~ +55°C(-58°F ~ +131°F) * Start up should be done at above -30°C 0~100%RH(condensing) Humidity control with AIR vent	
Certification	IP66, NEMA4X, IK10, Metal shielded RJ-45	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP66, IP67, IP6K9K, NEMA4X, IK10+
Power Consumption	PoE: Max 12.95W, typical 9.4W, 12VDC: Max 12.9W, typical 9.0W 12VDC: Max 22.0W, typical 9.0W	PoE+: Max 23.0W, typical 9.4W, PoE+: Max 22.5W, typical 12.1W	PoE+: Max 22.5W, typical 12.1W
Product Dimensions / Weight	ø 160x72mm(ø 6.23x2.84"), 1,170g (2.58lb)	ø 180x135mm(ø 7.09x5.31"), 2,000g(4.41 lb)	ø 180x135mm(ø 7.09x5.31"), 2,000g(4.41 lb)

	XNV-8093R 6MP AI IR Vandal Dome Camera	XND-8093RV 6MP AI IR Dome Camera	XNO-8083R 6MP AI IR Bullet Camera
Imaging Device	1/1.8" CMOS		
Resolution / Max. Frame Rate	6MP/30fps		
Min. Illumination	Color: 0.06Lux(F1.7, 1/30sec, 30IRE) BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.06Lux(F1.7, 1/30sec, 30IRE) BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation USB: Micro USB Type B		
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
Angular Field of View	H : 42° (Wide) ~ 15° (Tele) V : 23° (Wide) ~ 8° (Tele) D : 49° (Wide) ~ 17° (Tele)	H: 42° (Wide) ~ 15° (Tele) V : 23° (Wide) ~ 8° (Tele) D: 49° (Wide) ~ 17° (Tele)	H : 113° (Wide) ~ 47° (Tele) V : 58° (Wide) ~ 26° (Tele) 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°
IR Viewable Length	WiseIR 70m (229.66ft)	WiseIR 70m(229.66ft)	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)	Support	Support(built-in gyro sensor)
Analytics	**Classified object type:** Person/Face/Vehicle/License plate **Attributes:** Vehicle (Type:car/bus/truck/motorcycle/bicycle) **Support DetectionShot** **Analytics events based on AI engine:** Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection **Analytics events:** 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, DC 12V output		
Audio I/O	Selectable(mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out	
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	Manual, WiseStream III (Based on AI engine)		
Streaming	Up to 10 profiles, 3 virtual channel support	Unicast(20 users) / Multicast / Multiple streaming(Up to 10 profiles)	Unicast(20 users) / Multicast / Multiple streaming(Up to 10 profiles)
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)		
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) * Start up should be done at above -30°C 0~100% RH(condensing) Humidity control with AIR vent	-25°C ~ +50°C(-13°F ~ +122°F) / 0~100% RH(condensing) Humidity control with AIR vent	-50°C ~ +60° C(-58° F~ +140 °F) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~100% RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP52, IK10	IP66, IP67, NEMA4X, IK10
Power Consumption	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover		
Product Dimensions / Weight	ø 180x125mm(ø 7.09x4.92"), 1,900g(4.19 lb)	ø 160x125mm(ø 6.30x4.92"), 1,600g(3.53 lb)	ø 93.4x298.4mm(ø 3.68x11.75"), 2,200g(4.85 lb)

	XNV-6083RZ 2MP AI IR Vandal Dome Camera	XNV-6083Z 2MP AI Vandal Dome Camera	XNO-6123R 2MP AI IR Bullet Camera	XNV-6083R 2MP AI IR Vandal Dome Camera	XND-6083RV 2MP AI IR Dome Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 120fps				
Min. Illumination	Color: 0.01Lux(F1.3, 1/30sec, 30IRE) BW: 0.001Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE)	Color: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	—	—	CVBS: 1.0 Vp-p / 75Ω composite for installation USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	2.8~12mm (4.3x) varifocal	2.8~12mm(4.3x) varifocal	5.2~62.4mm(12x)	2.8~12mm(4.3x) varifocal	2.8~12mm(4.3x) varifocal
Angular Field of View	H: 120° (Wide)~27° (Tele) V: 63° (Wide)~15° (Tele) D: 143° (Wide)~32° (Tele)	H: 120° (Wide)~27° (Tele) V: 63° (Wide)~15° (Tele) D: 143° (Wide)~32° (Tele)	H: 55° (Wide) ~ 5° (Tele) V: 35° (Wide) ~ 3° (Tele) D: 62° (Wide) ~ 6° (Tele)	H: 120° (Wide)~27° (Tele) V: 63° (Wide)~15° (Tele) D: 143° (Wide)~32° (Tele)	H: 120° (Wide)~27° (Tele) V: 63° (Wide)~15° (Tele) D: 143° (Wide)~32° (Tele)
Pan / Tilt / Rotate	0°~350° / 0°~85° / 0°~340°	0°~350° / 0°~85° / 0°~340°	—	0°~360° / 0°~85° / 0°~355°	0°~360° / 0°~85° / 0°~355°
IR Viewable Length	15m(49.21ft), 30m(98.43ft) based on scene	—	WiseIR 90m (295.28ft)	WiseIR 50m (164.04ft)	WiseIR 50m (164.04ft)
Day & Night	Auto (ICR)				
Wide Dynamic Range	extremeWDR(150dB)				
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNRV				
Digital Image Stabilization	Support				
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Defocus 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	—	Based on AI engine: People/Vehicle counting, Queue management, Heatmap	Based on AI engine: People/Vehicle counting, Queue management, Heatmap
Alarm I/O	—	—	2 configurable I/O ports, DC 12V output	2 configurable I/O ports, DC 12V output	2 configurable I/O ports, DC 12V output
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: Main/Baseline/High, MJPEG				
WiseStream	Manual, WiseStream III(Based on AI engine)				
Streaming	Up to 10 profiles				
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	−50℃~+55℃(−58°F~+131°F) * Start up should be done at above −30℃ 0~100%RH(condensing) Humidity control with AIR vent	−40℃~+60℃(−40°F~+140°F) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR Vent	−50℃~+60℃(−58°F~+140°F) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR vent		−25℃~+50℃(−13°F~+122°F) 0~100%RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, IP6K9K, NEMA4X, IK10+		IP66, IP67, NEMA4X, IK10	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP52, IK10
Power Consumption	PoE+: Max 22.5W, typical 11.0W	PoE+: Max 22.5W, typical 11.0W	PoE+: Max 19.5W, typical 15.5W 12VDC: Max 16.5W, typical 13.1W Power redundancy failover	PoE+: Max. 22.5W, typical 17.9W 12VDC: Max. 20W, typical 15.6W	PoE+: Max. 22.5W, typical 17.9W 12VDC: Max. 20W, typical 15.6W
Product Dimensions / Weight	ø 180x135mm(ø 7.09x5.31"), 2,000g(4.41 lb)	ø 180x135mm(ø 7.09x5.31"), 2,000g(4.41 lb)	ø 93.4x298.4mm(ø 3.68x11.75"), 2,300g(5.07 lb)	ø 180x125mm(ø 7.09x4.92"), 1,900g(4.19 lb)	ø 160x125mm(ø 6.30x4.92"), 1,600g(3.53 lb)

	XNO-6083R 2MP AI IR Bullet Camera	XNB-6003 2MP AI Box Camera	XNV-C9083R 8MP AI IR Vandal Dome Camera	XND-C9083RV 8MP AI IR Dome Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/1.8" CMOS	1/1.8" CMOS
Resolution / Max. Frame Rate	2MP/120fps	2MP / 120fps	8MP / 30fps	8MP / 30fps
Min. Illumination	Color: 0.01Lux(F1.4, 1/30sec, 30IRE), BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.007Lux(F1.2, 1/30sec, 30IRE) BW: 0.0007Lux(F1.2, 1/30sec, 30IRE),	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B	
Focal Length (Zoom Ratio)	2.8~12mm(4.3x) varifocal	—	4.4~9.3mm(2.1x) varifocal	4.4~9.3mm(2.1x) varifocal
Angular Field of View	H: 120° (Wide)~27° (Tele) V: 63° (Wide)~15° (Tele) D: 143° (Wide)~32° (Tele)	—	H: 113°(Wide)~47°(Tele) V: 58°(Wide)~26°(Tele) D: 138°(Wide)~54°(Tele)	H: 113°(Wide)~47°(Tele) V: 58°(Wide)~26°(Tele) D: 138°(Wide)~54°(Tele)
Pan / Tilt / Rotate	0° ~360° / 0°~90° / 0°~360°	—	0° ~360° / 0°~75° / 0°~355°	0° ~360° / 0°~75° / 0°~355°
IR Viewable Length	WiseIR 50m (164.04ft)	—	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)
Day & Night	Auto(ICR)			
Wide Dynamic Range	150dB	150dB	120dB	120dB
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNRV			
Digital Image Stabilization	Support(built-in gyro sensor)			
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Defocus 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, DC 12V output	2 configurable I/O ports		
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: Main/Baseline/High, MJPEG			
WiseStream	Manual, WiseStream III(Based on AI engine)			
Streaming	Up to 10 profiles, 3 virtual channel support			
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)	Micro SD/SDHC/SDXC 1slot Max. 512GB	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GBx2)
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform			
Operating Temperature / Humidity	−50℃~+60℃(−58°F~+140°F) 74℃(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR vent	−10℃~+55℃(−14°F~+131°F) / 0~95% RH(non-condensing)	−40℃~+55℃(−40°F~+131°F) * Start up should be done at above −20℃ 0~100%RH(condensing) Humidity control with AIR vent	−10℃~+50℃(14°F~+122°F) 0~100% RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, NEMA4X, IK10	—	IP66, IP67, NEMA4X, IK10	IP52, IK08
Power Consumption	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE: Max 12.95W, typical 9.8W 12VDC: Max 19W, typical 9.5W	PoE: Max 12.95W, typical 11.2W 12VDC: Max 13.2W, typical 10.8W	PoE+: Max 12.95W, typical 11.2W 12VDC: Max 13.2W, typical 10.8W
Product Dimensions / Weight	ø 93.4x298.4mm(ø 3.68x11.75"), 2,200g(4.85 lb)	81(W)x67(H)x165(D)mm(3.19x2.64x6.48"), 880g(1.94 lb)	ø 160 x118mm(ø 6.30x4.65"), 1,450g(3.20 lb)	ø 160x118mm(ø 6.30x4.65"), 1,350g(2.98 lb)

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AI Camera (page 26)

	XNO-C9083R 8MP AI IR Bullet Camera	XNV-C8083R 6MP AI IR Vandal Dome Camera	XND-C8083RV 6MP AI Dome Camerav	XNO-C8083R 6MP AI IR Bullet Camera	XNV-C7083R 4MP AI IR Vandal Dome Camera
Imaging Device	1/1.8″ CMOS	1/1.8″ CMOS	1/1.8″ CMOS	1/1.8″ CMOS	1/2.8″ CMOS
Resolution / Max. Frame Rate	8MP / 30fps	6MP / 30fps	6MP / 30fps	6MP / 30fps	4MP / 60fps
Min. Illumination	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.038Lux(F1.4, 1/30sec, 30IRE) BW: 0.0038Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle	USB: Micro USB Type B			USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	4.4~9.3mm(2.1x) varifocal	4.4~9.3mm(2.1x) varifocal	4.4~9.3mm(2.1x) varifocal	4.4~9.3mm(2.1x) varifocal	2.8~10mm(3.6x) varifocal
Angular Field of View	H: 113°(Wide) ~ 47°(Tele) V: 58°(Wide) ~ 26°(Tele) D: 138°(Wide) ~ 54°(Tele)				H: 110° (Wide) ~ 30° (Tele) V: 61° (Wide) ~ 17°(Tele) D: 132° (Wide) ~ 35° (Tele)
Pan / Tilt / Rotate	0° ~ 360° / 0° ~ 90° / 0° ~ 360°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 360°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°
IR Viewable Length	WiseIR 40m (131.23ft)				
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNRⅡ(Based on AI engine), SSNRⅤ				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Defocus 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: Main/Baseline/High, MJPEG				
WiseStream	Manual(5ea area), WiseStreamⅢ(Based on AI engine)				
Streaming	Up to 10 profiles				
Edge Storage	micro SD/SDHC/SDXC Max. 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	−40°C~+55°C(−40°F~+131°F) * Start up should be done at above −20°C 0~100%RH(condensing) Humidity control with AIR vent		−10°C~+50°C(14°F~+122°F) / 0~100% RH(condensing) Humidity control with AIR vent		−40°C~+55°C(−40°F~+131°F) * Start up should be done at above −20°C 0~100%RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP52, IK08	IP66, IP67, NEMA4X, IK10	PoE: Max 12.95W, NEMA4X, IK10
Power Consumption	PoE: Max 12.95W, typical 11.2W 12VDC: Max 13.2W, typical 16.8W				PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W
Product Dimensions / Weight	ø 93.4x276.6mm(ø 3.68x10.89″), 1,640g(3.62 lb)	ø 160x118mm(ø 6.30x4.65″), 1,450g(3.20 lb)	ø 160x118mm(ø 6.30x4.65″), 1,350g(2.98 lb)	ø 93.4x276.6mm(ø 3.68x10.89″), 1,640g(3.62 lb)	ø 160x118mm(ø 6.30x4.65″), 1,450g(3.20 lb)

AI Camera (page 27)

	XND-C7083RV 4MP AI IR Dome Camera	XNO-C7083R 4MP AI IR Bullet Camera	XNV-C6083R 2MP AI IR Vandal Dome Camera	XND-C6083RV 2MP AI Dome Camera	XNO-C6083R 2MP AI IR Bullet 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	4MP / 60fps	4MP / 60fps	2MP / 60fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Color: 0.038Lux(F1.4, 1/30sec, 30IRE) BW: 0.0038Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Color: 0.038Lux(F1.4, 1/30sec, 30IRE) BW: 0.0038Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) B/W: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Color: 0.01Lux(F1.4, 1/30sec, 30IRE) B/W: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps
Video Out	Micro USB Type B	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle	USB: Micro USB Type B	USB: Micro USB Type B	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle
Focal Length (Zoom Ratio)	2.8~10mm(3.6x) varifocal	2.8~10mm(3.6x) varifocal	2.8~12mm(4.3x) varifocal	2.8~12mm(4.3x) varifocal	2.8~12mm(4.3x) varifocal
Angular Field of View	H: 110° (Wide) ~ 30° (Tele) V: 61° (Wide) ~ 17° (Tele) D: 132° (Wide) ~ 35° (Tele)	H: 110° (Wide) ~ 30° (Tele) V: 61° (Wide) ~ 17° (Tele) D: 132° (Wide) ~ 35° (Tele)	H: 120°(Wide) ~ 27°(Tele) V: 63°(Wide) ~15°(Tele) D: 143° (Wide) ~ 32° (Tele)	H: 120°(Wide) ~ 27°(Tele) V: 63°(Wide) ~15°(Tele) D: 143° (Wide) ~ 32° (Tele)	H: 120°(Wide) ~ 27°(Tele) V: 63°(Wide) ~ 15°(Tele) D: 143°(Wide) ~ 32°(Tele)
Pan / Tilt / Rotate	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 360°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 360° / 0° ~ 75° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 355°
IR Viewable Length	WiseIR 40m (131.23ft)				
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB		150dB		
Digital Noise Reduction	WiseNRⅡ(Based on AI engine), SSNRⅤ				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Defocus 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: Main/Baseline/High, MJPEG				
WiseStream	Manual(5ea area), WiseStreamⅢ(Based on AI engine)				
Streaming	Up to 10 profiles,				
Edge Storage	micro SD/SDHC/SDXC 1slot 512GB				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	−10°C~+50°C(14°F~+122°F) / 0~100% RH(condensing) Humidity control with AIR vent	−40°C~+55°C(−40°F~+131°F) * Start up should be done at above −20°C 0~100%RH(condensing) Humidity control with AIR vent	−10 °C~+50 °C (14°F~+122°F) / 0~100% RH(condensing) Humidity control with AIR vent		−40°C~+55°C(−40°F~+131°F) * Start up should be done at above −20°C 0~100%RH(condensing) Humidity control with AIR vent
Certification	IP52, IK08	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP52, IK08	IP66, IP67, NEMA4X, IK10
Power Consumption	PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W	PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W	PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W	PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W	PoE: Max 12.95W, typical 10.8W 12VDC: Max 12.5W, typical 10W
Product Dimensions / Weight	ø 160x118mm(ø 6.30x4.65″), 1,350g(2.98 lb)	ø 93.4x276.6mm(ø 3.68x10.89″), 1,640g(3.62 lb)	ø 160x118mm(ø 6.30x4.65″), 1,450g(3.20 lb)	ø 160x118mm(ø 6.30x4.65″), 1,350g(2.98 lb)	ø 93.4x276.6mm(ø 3.68x10.89″), 1,640g(3.62 lb)

NETWORK

	XNP-C9310R\n8MP 31x AI IR PTZ Camera	XNP-C9303RW\n8MP 30x AI Wiper IR PTZ Camera	XNP-C9253R\n8MP 25x AI IR PTZ Camera	XNP-C9253\n8MP 25x AI PTZ Camera	XNP-C8303RW\n6MP 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, 30 IRE) BW: 0.006 Lux(F1.36, IR LED Off), 0Lux (IR LED On)	Color: 0.1Lux(F1.6, 1/30sec, 30 IRE) BW: 0.01Lux(F1.6, 1/30sec, 30 IRE), 0Lux (IR LED On)	Color : 0.1Lux (1/30sec, 30IRE) BW : 0.01Lux (1/30sec, 30IRE)		
Video Out	–	–	–	–	–
Focal Length (Zoom Ratio)	6.91~214.7mm(31x) zoom (digital 32x, total 992x zoom) Support Quick zoom	5~150mm(30x) zoom (digital 32x, total 960x zoom)	5~125mm(25x) zoom (digital 32x)	5~125mm(25x) zoom (digital 32x)	5~150mm(30x) zoom (digital 32x)
Angular Field of View	H: 60.6° (Wide) ~ 2.59° (Tele) V : 35.1° (Wide) ~ 1.45° (Tele) D : 68.8° (Wide) ~ 2.97° (Tele)	H: 57.42° (Wide) ~2.19° (Tele) V: 33.54° (Wide) ~1.25° (Tele)	H: 57.42° (Wide) ~2.71° (Tele) V: 33.54° (Wide) ~1.55° (Tele)	H: 57.42° (Wide) ~2.71° (Tele) V: 33.54° (Wide) ~1.55° (Tele)	H: 57.42° (Wide) ~ 2.19° (Tele) V: 33.54° (Wide) ~1.25° (Tele)
Pan / Tilt / Rotate	360° Endless / –20° ~ 90°				
IR Viewable Length	WiseIR 250m(820ft)	WiseIR 200m (656.17ft)	WiseIR 200m(656.17ft)	–	WiseIR 200m(656.17ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto (ICR)/Color/BW/Schedule	Auto (ICR)/Color/BW/Schedule	Auto (ICR)/Color/BW/Schedule
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNRV				
Digital Image Stabilization	Support(built-in gyro sensor)				
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear)		Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Virtual area (Appear/Disappear)		
Business Intelligence	–				
Alarm I/O	Support alarm I/O via optional I/O box				
Audio I/O	Support via optional I/O box				
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
WiseStream	Manual, WiseStream III				
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), Hanwha Vision Open Platform				
Operating Temperature / Humidity	–40°C~+55°C(–58°F~+131°F)/ +74°C(165°F)(Max) based on NEMA TS–2(2.2.7) * Start up should be done at above –30°C 0~100%RH(Condensing) Humidity control with AIR vent	–40°C~+55°C(–58°F~+131°F)/ +74°C(165°F)(Max) based on NEMA TS–2(2.2.7) * Start up should be done at above –30°C 0~100%RH(Condensing) Humidity control with AIR vent	–40°C~+55°C(–40°F~+131°F)/ +74°C(165°F)(Max) based on NEMA TS–2(2.2.7)0~90%RH(non-condensing) Humidity control with AIR vent * Start up should be done at above –30°C	–40°C~+55°C(–40°F~+131°F)/ +74°C(165°F)(Max) based on NEMA TS–2(2.2.7) * Start up should be done at above –30°C 0~90%RH(Condensing) Humidity control with AIR vent	–40°C~+55°C(–40°F~+131°F)/ +74°C(165°F)(Max) based on NEMA TS–2(2.2.7) * Start up should be done at above –30°C 0~100%RH(Condensing) Humidity control with AIR vent
Certification	IP66, IP67, IK10, NEMA4X 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)	IP66, IK10, NEMA TS 2–2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X		
Power Consumption	Typical 23W, Max 62W	Typical 24W, Max 46W	Typical 24W, Max 25.5W	Typical 24W, Max 25.5W	Typical 26W, Max 46W
Product Dimensions / Weight	ø188x264.9mm(ø7.40x10.47") / 4400g (9.70lb)	ø184.9x318.8mm(7.28x12.55") / 5,600g (12.34lb)	ø158x293.3mm(6.22x11.55") / 3,200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3,200g(7.05lb)	ø184.9x318.8mm(7.28x12.55") / 5,600g (12.34lb)

NETWORK

	XNP-C8253R\n6MP 25x AI IR PTZ Camera	XNP-C8253\n6MP 25x AI PTZ Camera	XNP-C7310R\n4MP 31x AI IR PTZ Camera	XNP-C6403RW\n2MP 40x AI Wiper IR PTZ Camera	XNP-C6403R\n2MP 40x AI IR PTZ Camera	XNP-C6403\n2MP 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 (1/30sec, 30IRE) BW : 0.01Lux (1/30sec, 30IRE)	Color : 0.1Lux (1/30sec, 30IRE) BW : 0.01Lux (1/30sec, 30IRE)	Color : 0.04Lux (1/30sec, 30IRE) BW : 0.004Lux (1/30sec, 30IRE)	Color : 0.05Lux (1/30sec, 30IRE) BW : 0.005Lux (1/30sec, 30IRE)	Color : 0.05Lux (1/30sec, 30IRE) BW : 0.005Lux (1/30sec, 30IRE)	Color : 0.05Lux (1/30sec, 30IRE) BW : 0.005Lux (1/30sec, 30IRE)
Video Out	–	–	–	–	–	–
Focal Length (Zoom Ratio)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	6.91~214.7mm(31x) zoom (digital 32x, total 992x zoom)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)
Angular Field of View	H: 57.42° (Wide) ~ 2.71° (Tele) V: 33.54° (Wide) ~1.55° (Tele)	H: 57.42° (Wide) ~2.71° (Tele) V: 33.54° (Wide) ~1.55° (Tele)	H: 59.4° (Wide) ~ 2.54° (Tele) V: 35.8° (Wide) ~1.49° (Tele)	H: 65.66° (Wide) ~1.88° (Tele) V: 39.4° (Wide) ~1.09° (Tele)	H: 65.66° (Wide) ~1.88° (Tele) V: 39.4° (Wide) ~1.09° (Tele)	H: 65.66° (Wide) ~1.88° (Tele) V: 39.4° (Wide) ~1.09° (Tele)
Pan / Tilt / Rotate	360° Endless / –20°~ 90°					
IR Viewable Length	WiseIR 200m(656.17ft)	–	WiseIR 300m(984ft)	WiseIR 200m (656.17ft)	WiseIR 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), SSNRV					
Digital Image Stabilization	Support(built-in gyro sensor)					
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion Detection Analytics events: Tampering, Fog detection, Shock detection, Virtual area(Appear/Disappear) * Audio detection, Sound classification(Via optional I/O box SPM-4210)					
Business Intelligence	–					
Alarm I/O	Support alarm I/O via optional I/O box					
Audio I/O	Support via optional I/O box					
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG					
WiseStream	Manual(Sea 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) Hanwha Vision Open Platform					
Operating Temperature / Humidity	–40°C~+55°C(–40°F~+131°F) +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) * Start up should be done at above –30°C 0~100% RH(condensing) Humidity control with AIR vent					
Certification	IP66, IK10, NEMA TS 2–2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X		IP66, IP67, IK10, NEMA TS 2–2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X	IP66, IK10, NEMA TS 2–2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X		
Power Consumption	Typical 24W, Max 40W	Typical 24W, Max 25.5W	Typical 23W, Max 62W	Typical 26W, Max 46W	Typical 24W, Max 40W	Typical 24W, Max 25.5W
Product Dimensions / Weight	ø158x293.3mm(6.22x11.55") / 3,200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3,200g(7.05lb)	ø188x264.9mm(ø7.40x10.47") / 4,400g (9.70lb)	ø184.9x318.8mm(7.28x12.55") / 5,600g (12.34lb)	ø158x293.3mm(6.22x11.55") / 3,200g(7.05lb)	ø158x293.3mm (6.22x11.55") / 3,200g (7.05lb)

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	PNV-A9082RZ 8MP AI IR Vandal Camera	PND-A9082RV 8MP AI IR Dome Camera	PNO-A9092R 8MP AI IR Bullet Camera	PNO-A9082R 8MP AI IR Bullet Camera	PNV-A7082RZ 4MP AI IR Vandal Camera
Imaging Device	1/1.2" CMOS				1/1.8" CMOS
Resolution / Max. Frame Rate	8MP/ 30fps				4MP/ 60fps
Min. Illumination	Color: 0.015Lux(1/30sec, 30IRE), BW: 0.0015Lux(1/30sec, 30IRE)		Color: 0.03Lux(F1.67, 1/30sec, 30IRE), BW: 0.003Lux(F1.67, 1/30sec, 30IRE)		Color: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE)
Video Out	–	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.			–
Focal Length (Zoom Ratio)	5.9~13.3mm(2.25x) motorized varifocal	15~50mm(3.33x) motorized varifocal	5.9~13.3mm(2.25x) motorized varifocal		4.6~9.35mm(2.0x) motorized varifocal
Angular Field of View	H: 109° (Wide)~49° (Tele) V: 59° (Wide)~27° (Tele) D: 128° (Wide)~56° (Tele)	H: 42.7° (Wide)~12.6° (Tele) V: 24.1° (Wide)~7.2° (Tele) D: 49° (Wide)~14.3° (Tele)	H: 109° (Wide)~49° (Tele) V: 59° (Wide)~27° (Tele) D: 128° (Wide)~56° (Tele)		H: 105° (Wide)~47° (Tele) V: 58° (Wide)~27° (Tele) D: 128° (Wide)~55° (Tele)
Pan / Tilt / Rotate Range	Remote adjustment(Max. 3,650cycles) 0° ~ 350° / −45° ~ 85° /−95°~ 95°	0°~ 360° / −45° ~ 85° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 180°		Remote adjustment(Max. 3,650cycles) 0° ~ 350° / 0° ~ 85° / −95°~ 95°
IR Viewable Length	WiseIR 50m(164.04ft)	WiseIR 60m(196.85ft)	WiseIR 120m(393.7ft)	WiseIR 60m(196.85ft)	WiseIR 50m(164.04ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNRⅡ(Based on AI engine), SSNRⅤ				
Digital Image Stabilization	Support				
Analytics	**Classified object type**: Person/Face/Vehicle/License plate **Attributes**: Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) **Support BestShot, Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection, **Analytics events**: Defocus detection, Tampering, Shock detection, Audio detection				
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap				
Alarm I/O	– / Support extra alarm I/O via optional I/O box	2 configurable I/O ports, DC 12V output(Max. 50mA)			– / –
Audio I/O	– / –	Selectable(mic in/line in/built-in 3mics)/Line out	Selectable(mic in/line in)/Line Out	Selectable(mic in/line in)/Line Out	– / –
Video Compression	H.265/H.264: Main/Baseline/High MJPEG				
WiseStream	WiseStream(Based on AI engine)				
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 5 profiles, 3 virtual channel support)				
Edge Storage	Micro SD/SDHC/SDXC 2slots Max. 1TB x 2slots(Total 2TB)				
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) / 0~100% RH(Condensing) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above −30°C Humidity control with AIR vent	−25°C ~ +50°C(−13°F ~+122°F) 0~100% RH(Condensing) Humidity control with AIR vent	−50°C ~ +55° C(−58°F ~ +131°F) / 0~100% RH(Condensing) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above −30°C Humidity control with AIR vent		
Certification	IP66, IP67, IP6K9K, NEMA4X, IK11, NEMA-TS 2(2.2.7.2−8, 2.2.8, 2.2.9)	IP52, IK10	IP66, IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2−8, 2.2.8, 2.2.9)		IP66, IP67, IP6K9K, NEMA4X, IK11, NEMA-TS 2(2.2.7.2−8, 2.2.8, 2.2.9)
Power Consumption	PoE: Max. 17.5W, typical 11.0W	− power consumption PoE: Max. 19.2W, typical 11.0W 12VDC: Max. 16.5W, typical 9.5W	PoE: Max. 19.2W, typical 11.0W, 12VDC: Max. 16.5W, typical 9.5W − power redundance failover support		PoE: Max. 15.0W, typical 9.0W
Product Dimensions / Weight	ø 180x135mm(ø 7.09x5.31"), 2,100g(4.63lb)	ø 160x125mm(ø 6.30x4.92"), 1,550g(3.42lb)	ø 93.4x298.4mm(ø 3.68x11.75"), 2,180g(4.81lb)	ø 93.4x298.4mm(ø 3.68x11.75"), 2,060g(4.54lb)	ø 180x135mm(ø 7.09x5.31"), 2,100g(4.63lb)

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	PND-A7082RV 4MP AI IR Dome Camera	PNO-A7082R 4MP 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
Imaging Device	1/1.8" CMOS				
Resolution / Max. Frame Rate	4MP/60fps		8MP / 30fps		
Min. Illumination	Color: 0.03Lux(F1.3, 1/30sec, 30IRE), BW: 0.001Lux(F1.3, 1/30sec, 30IRE)		Color: 0.05Lux(F1.6, 1/30sec), BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)		
Video Out	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	4.6~9.35mm(2.0x) motorized varifocal		4.5 ~10mm(2.2x) motorized varifocal		
Angular Field of View	H: 105° (Wide)~47° (Tele) V: 58° (Wide)~27° (Tele) D: 128° (Wide)~55° (Tele)		H:101.4° (Wide)~ 45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~ 52.3°(Tele)		
Pan / Tilt / Rotate Range	0° ~ 360° / 0° ~ 85° / 0° ~ 355°	0° ~ 360° / 0° ~ 90° / 0° ~ 180°	–	0°~360° / −45°~ 85° / 0°~ 355°	0°~360° / −45°~ 85° / 0°~ 355°
IR Viewable Length	WiseIR 60m(196.85ft)		WiseIR 30m(98.42ft)	WiseIR 30m(98.42ft)	WiseIR 30m(98.42ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNRⅡ(Based on AI engine), SSNRⅤ				
Digital Image Stabilization	Support				
Analytics	**Classified object type**: Person/Face/Vehicle / License plate **Attributes**: Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) **Support BestShot, Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection, **Analytics events**: Defocus detection, Tampering, Shock detection, Audio detection		**Classified object type**: Person/Face/Vehicle/License plate **Attributes**: Person(Gender/Color/Bag), Face(Age/Gender/Mask/Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color) **Support BestShot per object Analytics events based on AI engine**: Object detection, Virtual line°(Crossing/Direction), Virtual area°(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection **Analytics events**: Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) Support WiseDetector for Adding custom objects		
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap		People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine		
Alarm I/O	2 configurable I/O ports, DC 12V output(Max. 50mA)		2 configurable I/O ports, DC 12V output(Max. 50mA)		
Audio I/O	Selectable(mic in/line in/built-in 3mics)/ Line out	Selectable(mic in/line in)/ Line out *Support extra alarm I/O via optional I/O box	Selectable (mic in/line in) / 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/High, MJPEG		
WiseStream	WiseStream(Based on AI engine)		Manual, WiseStream Ⅲ		
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 5 profiles, 3 virtual channel support)		Unicast(6 users) / Multicast Multiple streaming(up to 6 profiles)		
Edge Storage	Micro SD/SDHC/SDXC Max. 1TB x 2slot(Total 2TB)		Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)		
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform		ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform−WiseAI application included(Analytic based on AI, Business intelligence)		
Operating Temperature / Humidity	−25°C ~ +50°C(−13°F ~ +122°F) 0~100% RH(Condensing) Humidity control with AIR vent	−50°C ~ +55°C(−58°F ~ +131°F) 0 ~100% RH(Condensing) +74°C(+165°F) (MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above −30°C Humidity control with AIR vent	−50°C ~ +55°C(−58°F ~ +131°F) / 0~90%RH(Non-condensing) * Start up should be done at above−30° C	−50°C ~ +55°C(−58°F ~ +131°F) / 0~90%RH(Non-condensing) * Start up should be done at above−30° C	−25°C ~ +50°C (−13°F ~ +122°F) / 0~90%RH(Non-condensing)
Certification	IP52, IK10	IP66, IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2−8, 2.2.8, 2.2.9)	IP66, IP67, IK10, NEMA4X	IP66, IP67, IP6K9K, IK10+, NEMA4X	IP52, IK10
Power Consumption	PoE: Max. 15.0W, typical 9.0W, 12VDC: Max. 12.7W, typical 7.8W − Power Redundance Failover Support		PoE+: Max 20.0W, typical 17.00W 12VDC: Max 18.00W, typical 16.00W − Power Redundance Failover support	PoE+: Max 20.00W, typical 17.00W 12VDC: Max 18.70W, typical 15.00W	PoE+: Max 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W
Product Dimensions / Weight	ø 160x125mm(ø 6.30x4.92"), 1,550g(3.42lb)	ø 93.4x298.4mm(ø 3.68x11.75"), 2,060g(4.54lb)	ø 91.0x368.6mm (3.58" x 14.51") (Without sunshield), 2,480g (5.47lb)	ø 180x125mm(7.09x4.92"), 1,900g (4.19lb)	ø 160x125mm(6.30x4.92"), 1,600g (3.53lb)

	PNO-A9311R 8MP AI IR Bullet Camera	PND-A9081RF 8MP AI IR Dome Camera	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
Imaging Device	1/1.8" CMOS		1/2" CMOS			
Resolution / Max. Frame Rate	4K / 30fps		2MP / 120fps			
Min. Illumination	Color : 0.075Lux (1/30sec, 30IRE) BW : 0.0075Lux (1/30sec, 30IRE)	Color : 0.05Lux (1/30sec, 30IRE) BW : 0.005Lux (1/30sec, 30IRE)	Color : 0.007Lux (1/30sec, 30IRE) BW : 0.0007Lux (1/30sec, 30IRE)			
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.					
Focal Length (Zoom Ratio)	6.91~214.7mm (31x) varifocal	4.5~10mm(2.2x) varifocal	4.38~9.33mm(2.13x) varifocal			
Angular Field of View	H: 60.92˚ (Wide) ~2.2˚ (Tele) V:35.26˚ (Wide) ~1.24˚ (Tele) D:69.18˚ (Wide) ~2.52˚ (Tele)	H:101.4˚ (Wide) ~ 45.5˚ (Tele) V:53.6˚ (Wide) ~ 25.5˚ (Tele) D:120.7˚ (Wide) ~ 52.3˚ (Tele)	H:103.1˚ (Wide) ~ 44.5˚ (Tele) V:54.2˚ (Wide) ~ 24.9˚ (Tele) D:124˚ (Wide) ~ 51.1˚ (Tele)			
Pan / Tilt / Rotate	–	0˚ ~ 360˚ / –45˚ ~ 85˚ / 0˚ ~ 355˚	–		0˚ ~ 360˚ / –45˚ ~ 85˚ / 0˚ ~ 355˚	
IR Viewable Length	WiseIR 70m(229.66ft)	WiseIR 30m(98.42ft)	WiseIR 40m (131.23ft)			
Day & Night	Auto(ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	WiseNRⅡ(Based on AI engine), SSNRⅤ					
Digital Image Stabilization	Support					
Analytics	**Classified object type:** Person/Face/Vehicle/License plate **Attributes:** Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color) **Support BestShot per object** **Analytics events based on AI engine** : Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection **Analytics events** : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) **Support WiseDetector for Adding custom objects** *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/built-in mic) line out	Selectable (mic in/line in) / line out
Video Compression	H.265/H.264: Main/High, MJPEG					
WiseStream	Manual(5ea area), WiseStreamⅡ, WiseStreamⅢ(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) **Hanwha Vision** Open Platform – WiseAI application included(Analytic based on AI, Business intelligence)					
Operating Temperature / Humidity	–40˚C~+55˚C(–40˚F~+131˚F) / 0~100%RH(condensing) ,Humidity control / with AIR vent * Start up should be done at above –30˚C	–25˚C~+50˚ C (–13˚ F ~+122˚F) / 0~90%RH(Non-condensing)	–50˚C ~ +55˚C(–58˚F ~ +131˚F) / 0~90%RH(Non-condensing) * Start up should be done at above –30˚C		–25˚C~+50˚C (–13˚F~+122˚F) / 0~90%RH(Non-condensing)	
Certification	IP66, IP67	IP52, IK10; Plenum rate	IP66, IP67, IK10, NEMA 250 type 4X	IP66, IP67, IP6K9K, IK10+, NEMA 250 type 4X	IP52, IK10	
Power Consumption	PoE+: Max 25.5W, typical 14.0W 12VDC: Max 24.0W, typical 12.7.W	PoE+: Max 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W	PoE+: Max 19.50W, typical 16.00W 12VDC: Max 17.00W, typical 13.50W			
Product Dimensions / Weight	ø 136.2x358.7mm(ø 5.36x14.12") (Without sunshield), 3,200g(7.05lb) * backbox : ø 160mm(ø 6.30'')	ø 205x163mm(8.07x4.92"), 1,950g (4.30lb)	ø 91.0x368.6mm (3.58" x 14.51") (Without sunshield), 2,480g (5.47lb)	ø 180x125mm(7.09x4.92"), 1,900g (4.19lb)	ø 160x125mm(6.30x4.92"), 1,600g (3.53lb)	ø 205x163mm(8.07x4.92"), 1,950g(4.30lb)

	PNB-A9092 8MP AI Box Camera	PNB-A9082 8MP AI Box Camera	PNB-A9001 8MP AI Box Camera	PNB-A6001 2MP AI Box Camera
Imaging Device	1/1.2" CMOS		1/1.8" CMOS	1/2" CMOS
Resolution / Max. Frame Rate	8MP / 30fps			2MP / 120fps
Min. Illumination	Color: 0.015Lux(F1.2, 1/30sec) B/W : 0.0015Lux(F1.2, 1/30sec)		Color : 0.03Lux (1/30sec, 30IRE) BW : 0.003Lux (1/30sec, 30IRE)	Color : 0.006Lux (1/30sec, 30IRE) BW : 0.0006Lux (1/30sec, 30IRE)
Video Out	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.		CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	
Focal Length (Zoom Ratio)	15~50mm(3.33x) motorized varifocal	5.9~13.3mm(2.25x) motorized varifocal	–	
Angular Field of View	H: 42.7˚ (Wide) ~12.6˚ (Tele) V: 24.1˚ (Wide) ~ 7.2˚ (Tele) D: 49˚ (Wide) ~14.3˚ (Tele)	H: 109˚ (Wide) ~49˚ (Tele) V: 59˚ (Wide) ~27˚ (Tele) D: 128˚ (Wide) ~ 56˚ (Tele)	–	
Pan / Tilt / Rotate	–			
IR Viewable Length	–			
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNRⅤ, WiseNRⅡ (Based on AI engine)			
Digital Image Stabilization	Support			
Analytics	**Classified object type**: Person/Face/Vehicle/License plate **Attributes**: Person(Gender, Clothing top/bottom color, Bag), Face(Age, Gender, Mask, Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color) **Support BestShot. Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Slip & fall detection, Face mask detection, Social distancing detection, **Analytics events** : Defocus detection, Tampering, Audio detection, Shock detection, Virtual area(Appear/Disappear)		**Classified object type:** Person/Face/Vehicle/License plate **Attributes:** Person(Gender, Color and Bag), Face (Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color) **Support BestShot per object Analytics events based on AI engine:** Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection **Analytics events:** Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) **Support WiseDetector for Adding custom objects** *Some of the video analytics only works with people and vehicle detection	
Business Intelligence	Based on AI engine: People/Vehicle/Crowd counting, Queue management, Heatmap			
Alarm I/O	2 configurable I/O ports / 12VDC output	2 configurable I/O ports, DC 12V output(Max. 50mA) *Support extra alarm I/O via optional I/O box	2 configurable I/O ports, DC 12V output	
Audio I/O	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/High, MJPEG	
WiseStream	WiseStream(Based on AI engine)		Manual, WiseStream Ⅲ	
Streaming	Unicast(20 users) / Multicast, Multiple streaming (Up to 5 profiles, 3 virtual channel support)		Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)	
Edge Storage	Micro SD/SDHC/SDXC 2slots Max. 1TB x 2slots(Total 2TB)		Micro SD/SDHC/SDXC 2slots 512GB	
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), **Hanwha Vision** Open Platform		ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **Hanwha Vision** Open Platform – WiseAI application included(Analytic based on AI, Business intelligence)	
Operating Temperature / Humidity	–10˚C~+55˚C(14˚F~+131˚F) / 0~95%RH(non-condensing)		–10˚C ~ +55˚C(+14˚F ~+131˚F) /0~90%RH(Non-condensing)	
Certification	–			
Power Consumption	PoE: Max. 13.6W, typical 12.7W, 12VDC: Max. 11.5W, typical 10.9W, ~ Power Redundance Failover Support		PoE+: Max 16.50W, typical 12.50W 12VDC: Max 13.50W, typical 10.80W	PoE+: Max 17.5W, Typ 13.7W 12VDC: Max 14W, Typ 10.6W
Product Dimensions / Weight	82(W)x76(H)x190(D)mm(3.23x2.99x7.48"), 1,020g(2.25lb)	82(W)x76(H)x190(D)mm(3.23x2.99x7.48"), 900g (1.98lb)	81x67x165mm(3.19x2.64x6.48"), 880g(1.94lb)	81x67x165mm(3.19x2.64x6.48"), 880g(1.94lb)

AI Camera

	PNM-C34404RQPZ 8MP 4CH PTRZ + 2MP 40x PTZ AI Camera		PNM-C19183RVTP 3CH + 1CH PTZ AI Camera		PNM-C32083RQZ 8MP x 4CH AI Multi-directional Camera	PNM-C16083RQZ 4MP x 4CH AI Multi-directional Camera
Imaging Device	1/2.8" CMOS x 4CH	1/2.8" CMOS x 1CH PTZ	1/2.8" CMOS x 3CH	1/2.8" CMOS x 1 PTZ	1/1.8" CMOS x 4CH	1/2.8" CMOS x 4CH
Resolution / Max. Frame Rate	8MP/20fps	2MP / 60fps	5MP/30fps	4MP/30fps	8MP/20fps	4MP / 30fps
Min. Illumination	Color: 0.1Lux(F1.5, 1/30sec, 30IRE) BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)		Color: 0.08Lux(F2.0, 1/30sec, 30IRE) BW: 0.008Lux(F2.0, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.05Lux(F2.0, 1/30sec, 30IRE) BW: 0.005Lux(F2.0, 1/30sec, 30IRE)	Color: 0.07Lux(F1.3, 1/30sec, 30IRE) BW: 0Lux(IR LED on)	Color: 0.1Lux(F1.6, 1/30sec, 30IRE) BW: 0.01Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	–	–	USB: Micro USB Type C for installation		–	
Focal Length (Zoom Ratio)	3.3~5.7mm(1.7x)	4.25~170mm(40x) (digital 32x)	2.4mm fixed focal	5.42~98.29mm(18x) (digital 32x, total 576x)	4.38~9.33mm(2.1x) motorized varifocal	3.2~10.2mm(3.2x) motorized varifocal
Angular Field of View	H: 109°(Wide)~56°(Tele) V: 55°(Wide)~31°(Tele) D: 136°(Wide)~65°(Tele)	H: 65.66°(Wide)~1.88°(Tele) V: 39.40°(Wide)~1.09°(Tele)	H: 123° / V: 91° / D: 159°	H: 53.1°(Wide) ~ 3.39°(Tele) V: 31.75°(Wide)~1.98°(Tele) D: 60.8°(Wide) ~ 3.92°(Tele)	H: 113°(Wide) ~ 47°(Tele) V: 58°(Wide) ~ 26°(Tele) D: 138°(Wide) ~ 54°(Tele)	H: 93°(Wide) ~ 29°(Tele) V: 53°(Wide) ~ 17°(Tele) D: 111°(Wide) ~ 34°(Tele)
Pan / Tilt / Rotate	0°~ 360° / 9°~ 65° / 0°~ 90° * Tilt angle with Shield IR: 40°~65°	0°~360° / 0°~ 110°	–	–	Remote adjustment(Max. 200cycles) 0°~ 360° / 30°~ 90° / 0°~ 90°	Remote adjustment(Max. 200cycles) 0°~ 360° / 30°~ 90° / 0°~ 90°
IR Viewable Length	20m (65.62ft)	WiseIR 200m (656.17ft)	15m(49.21ft), 10m(32.8ft) under 3m height installation	–	WiseIR PoE+ 25m(82.02ft) / PoE+ 15m(49.21ft)	WiseIR PoE+ 20m(65.62ft) / PoE+ 15m(49.21ft)
Day & Night	Auto (ICR)					
Wide Dynamic Range	120dB	150dB	120dB			
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNRV					
Digital Image Stabilization	–	Support	Support			–
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle(car/bus/truck/motorcycle/bicycle) Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Defocus detection, Motion detection, Tampering, Virtual area(Appear/Disappear)	Analytics events: Motion detection, Fog detection, Tampering, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Virtual line(Crossing/Direction) Support Audio detection, Sound classification via optional I/O box(SPM-4210)	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle type(car, bus, truck, motorcycle, bicycle), Vehicle Color, Person(Clothing top/bottom color) Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Tampering, Virtual area(Appear/Disappear) *Audio detection via optional I/O box	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle type(car, bus, truck, motorcycle, bicycle), Vehicle Color Support DetectionShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection Analytics events: Tampering, Virtual area(Appear/Disappear), Fog detection *Audio detection via optional I/O box	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehiclear/bus/truck/motorcycle/bicycle, Color), Person (Upper/Lower clothes color) Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics Events: Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)	
Business Intelligence	–		Based on AI engine: People/Vehicle counting, Queue management, Heatmap	–	–	–
Alarm I/O	–		Support alarm I/O via optional I/O box		2 configurable I/O ports *Support extra alarm I/O via optional I/O box	
Audio I/O	–		Support via optional I/O box		*Support via optional I/O box	
Video Compression	H.265/H.264, MJPEG		H.265/H.264: Main/Baseline/High, MJPEG		H.265/H.264: Main/High, MJPEG	
WiseStream	Manual, WiseStream III		Manual(5ea area), WiseStream(Based on AI engine)	Manual(5ea area), WiseStream II	Manual(5ea area), 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(5 users per channel)/Multicast/Multiple streaming (Up to 4 profiles per channel)	Unicast(10 users) / Multicast / Multiple streaming(Up to 3 profiles)	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)	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)
Application Programming Interface	ONVIF Profile S/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform		ONVIF Profile S/T/G/M, SUNAPI(HTTP API) Hanwha Vision Open Platform		ONVIF Profile S/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform	
Operating Temperature / Humidity	-40°C~ +50°C(-40°F~+122°F) +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~95% RH(non-condensing)		-40°C~ +55°C(-40°F~+131°F) * Start up should be done at above -35°C 0~100% RH(condensing) Humidity control with AIR vent		-40°C~ +55°C(-40°F~+131°F) * Start up should be done at above -35°C 0~100%RH(Condensing) Humidity control with Air vent	
Certification	IP66, IK10, NEMA 250 type 4X					
Power Consumption	HPoE: Max 64.00W, typical 45.00W		PoE++: Max 42W		PoE Max. 41W, typical 22W, PoE+: Max. 25.5W, typical 22W	
Product Dimensions / Weight	ø 140x110.2mm(ø 5.51x4.34"), 875g(1.93 lb)		ø 251.4x212mm(ø 9.9x8.35") / 4,800g(10.58lb)		ø 312.7x145.9mm(ø 12.31x5.74") 4,400g(9.7lb)	ø 312.7x145.9mm(ø 12.31x5.74") 4,400g(9.7lb)

AI Camera

	PNM-C32083RVQ 4MP x 4ch AI Camera	PNM-C16083RVQ 4MP x 4ch AI Camera	PNM-C16013RVQ 4MP x 4CH AI Multi-directional Camera	PNM-C12083RVD 6MP x 2CH AI Multi-directional Camera	PNM-C7083RVD 2MP x 2CH AI Multi-directional Camera
Imaging Device	1/2.8" CMOS x 4CH			1/2.8" CMOS x 2CH	
Resolution / Max. Frame Rate	[AI On] 8MP Max. 15fps [AI Off] 8MP Max 20fps	4MP / 30fps	4MP/15fps	6MP / 15fps	2MP / 30fps
Min. Illumination	Color: 0.1Lux(F1.5, 1/30sec, 30IRE) BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.0075Lux(F1.5, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)		Color: 0.16lux(F1.67, 1/30sec, 30IRE) BW: 0.016lux(F1.67, 1/30sec, 30IRE), 0lux(IR LED on)	Color: 0.035lux(F2.2, 1/30sec, 30IRE) BW: 0.0035lux(F2.2, 1/30sec, 30IRE), 0lux(IR LED on)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				
Focal Length (Zoom Ratio)	3.3~5.7mm(1.7x)		3.19mm	3.54~6.69mm(1.9x)	3~6mm(2x)
Angular Field of View	H: 109°(Wide) ~ 56°(Tele) V: 55°(Wide) ~ 31°(Tele) D: 136°(Wide) ~ 65°(Tele)	H: 100°(Wide) ~ 53°(Tele) V: 54°(Wide) ~ 30°(Tele) D: 125°(Wide) ~ 61°(Tele)	H: 97° / V: 54° / D: 116°	H: 96°(Wide) ~ 47°(Tele) V: 51°(Wide) ~ 26°(Tele) D: 113°(Wide) ~ 54°(Tele)	H: 107°(Wide) ~ 56°(Tele) V: 57°(Wide) ~ 31°(Tele) D: 126°(Wide) ~ 64°(Tele)
Pan / Tilt / Rotate	0°~ 360° / 0°~ 65° / 0°~ 90°		0 ~ 360°(100° per CH) / 0 ~ 75° / 0 ~ 90°		
IR Viewable Length	WiseIR 15m(49.21ft)		20m(65.62ft)	15m(49ft), 25m(82ft) based on scene	
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNRV				
Digital Image Stabilization	–				
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle(car/bus/truck/motorcycle/bicycle) Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle(car/bus/truck/motorcycle/bicycle) Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)	Classified object type: Person/Face/Vehicle/License plate (Car/Bus/Truck/Motorcycle/Bicycle) Attributes: Vehicle Support Detection shot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)	Classified object type: Person/Face/Vehicle/License plate Support BestShot Analytics events based on AI engine: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual-area(Appear/Disappear)	
Business Intelligence	–				
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional SPM-4210 I/O box		* Support extra alarm I/O via optional SPM-4210 I/O box	Support Alarm via optional SPM-4210 I/O box	
Audio I/O	Selectable(mic in/line in) / Line out		Support via optional I/O box	Support via optional I/O box	
Video Compression	H.265/H.264: Main/High, MJPEG			H.265/H.264: Main/Baseline/High, MJPEG	
WiseStream	Manual, WiseStream III				
Streaming	Up to 3 profiles per channel		Up to 4 profiles per channel	Unicast (10 users) / Multicast, 5 profiles per channel	
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)		Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)	micro SD/SDHC/SDXC 1slot Max. 512GB	
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform		ONVIF Profile S/T/M, 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) * Start up should be done at above -35°C 0~90% RH(non-condensing)			-40°C~+55°C(-40°F ~ +131°F) / 0~95% RH(non-condensing)	
Certification	IP66, IK10, NEMA 250 type 4X			IP66, IK09, NEMA 250 type 4X	
Power Consumption	Max. 23.5W, typical 13W		PoE+: Max 21W, typical 16.5W	PoE+: Max 20W, typical 15.5W	
Product Dimensions / Weight	ø 250x114.2mm(ø 9.84x4.50"), 2,820g(6.22 lb)	ø 250x114.2mm(ø 9.84x4.50"), 2,730g(6.02 lb)		ø 200x80mm(ø 7.87x3.15"), 1,380g(3.04 lb)	215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67"), 1,330g

NETWORK · VIDEO RECORDERS · CLOUD · PERIPHERALS · ACCESS CONTROL · IP AUDIO · ANALOG

	PNM-A13022RV	PNM-C9022RV	PNM-C20000QB
	13MP AI IR Panoramic Camera	8MP AI Panoramic Camera	2MP AI Remote Head Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS x 4CH	–
Resolution / Max. Frame Rate	30fps	2MP / 20fps x 4CH	2MP / 120fps
Min. Illumination	Color(1/30sec, 30IRE): 0.1 BW(1/30sec, 30IRE): 0.01	Color: 0.1(1/30sec, 30IRE) BW: 0.01(1/30sec, 30IRE)	–
Video Out	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle.	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle., HDMI(Single/Quad view)
Focal Length (Zoom Ratio)	3.06mm	2.8mm	–
Angular Field of View	H: 194° / V: 93°	H: 209° / V: 60°	–
Pan / Tilt / Rotate	0° ~ 360° / 0° ~ 50°	0° ~ 360° / 0° ~ 65° / –	–
IR Viewable Length	20m(65.62ft) 4 individual zones with Automatic/Manual level adjustment	20m (65.62ft)	–
Day & Night	Auto(ICR)	Auto (ICR)	Auto(Electrical)
Wide Dynamic Range	120dB	120dB	120dB
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V	
Digital Image Stabilization	–	–	Support
Analytics	**Classified object type**: Person/Face/Vehicle/License plate **Attributes**: Person(Upper/Lower clothes color, Gender, Bag), Vehicle(Type(car, bus, truck, motorcycle, bicycle), Color), Face(Age, Gender, Face mask, Glasses) **Support BestShot per object** **Analytics events based on AI engine** : Object detection, Virtual line(Crossing/Direction), Virtualarea(Loitering/Intrusion/Enter/Exit), Motion detection, Face mask detection, Socialdistancing detection, Slip & fall detection **Analytics events** : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)	**Classified object type**: Person, Vehicle **Attributes**: Vehicle(Type: car/bus/truck/motorcycle/bicycle) **Support BestShot** **Analytics events based on AI engine**: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)	**Classified object type**: Person/Face/Vehicle/License plate **Attributes**: Person(Gender/Color/Bag), Face(Age/Gender/Mask/Glasses), Vehicle(car/bus/truck/motorcycle/bicycle and Color) **Support BestShot per object** **Analytics events based on AI engine**: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection **Analytics events**: Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) **Support WiseDetector for Adding custom objects**
Business Intelligence	Based on AI Engine: People counting, Queue management, Heatmap, Vehicle counting, Crowd counting	–	People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine
Alarm I/O	2 configurable I/O ports	2 configurable I/O ports	4 configurable I/O ports
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	4 x Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	H.265 / H.264, MJPEG	H.265 / H.264, MJPEG
WiseStream	Manual, WiseStream(Based on AI engine)	Manual, WiseStream III	WiseStream(Based on AI engine)
Streaming	Unicast(Up to 20 users) / Multicast(Support) / Multiple streaming (Up to 4 profiles, 3 virtual channel support)	Unicast(20 users) / Multicast, Multiple streaming (Up to 3 profiles, 2 virtual channel support)	Unicast(20 users) / Multicast, Multiple streaming(Up to 4 profiles)
Edge Storage	Micro SD/SDHC/SDXC Max. 1TB x 2slot(Total 2TB)	micro SD/SDHC/SDXC 2slot Max. 1TB(512GB * 2)	Micro SD/SDHC/SDXC Max. 1TB x 2slot(Total 2TB)
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **Hanwha Vision** Open Platform	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **Hanwha Vision** Open Platform	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **Hanwha Vision** Open Platform – WiseAI application included(Analytic based on AI, Business intelligence)
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~100%RH(Condensing)	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing)	-10°C ~ +55°C(+14°F ~ +131°F) / 0~95% RH(non-condensing)
Certification	IP66, IK10, NEMA 250 type 4X	IP66, IK10, NEMA 250 type 4X	IEC/EN 63000
Power Consumption	PoE+: Max 22.3W, typical 11.5W 12VDC: Max 20.0W, typical 10.0W	PoE+: Max 24.5W, typical 11.3W 12VDC: Max 22.0W, typical 10.4W Power redundancy failover	PoE+: Max 25.5W, Typ 23.8W 12VDC: Max 23.1W, Typ 21.5W
Product Dimensions / Weight	∅253x170mm(9.96x6.69"), 2,800g(6.17lb)	∅253x170mm(9.96"x6.69"), 2,900g(6.39lb)	200(W)x37(H)x146(D)mm(7.87x1.46x5.75")

	QNV-C9083R	QNV-C8083R	QNV-C6083R	QNV-C8013R	QNV-C8023R
	8MP AI IR Vandal Dome Camera	5MP AI IR Vandal Dome Camera	2MP AI IR Vandal Dome Camera	5MP AI IR Vandal Dome Camera	5MP AI IR Vandal Dome Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps	2MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.06Lux(F1.6, 1/30sec, 30IRE) BW: 0.006Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.07Lux(F1.6, 1/30sec, 30IRE) BW: 0.007Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.04Lux (F1.6, 1/30sec, 30IRE) BW: 0.004Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle. HDMI: 1080p@30/25fps(60/50Hz)	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	
Focal Length (Zoom Ratio)	3.2~10.2mm(3.2x) motorized varifocal			3.0mm	4.0mm
Angular Field of View	H: 104° (Wide) ~ 31° (Tele) V: 55° (Wide) ~17° (Tele) D: 124° (Wide) ~ 35° (Tele)	H: 95° (Wide) ~ 29° (Tele) V: 69° (Wide) ~ 21° (Tele) D: 126° (Wide) ~ 36° (Tele)	H: 102° (Wide) ~ 32° (Tele) V: 55° (Wide) ~18° (Tele) D: 119° (Wide) ~ 36° (Tele)	H: 100° / V: 73° / D: 129°	H: 80° / V: 59° / D: 102°
Pan / Tilt / Rotate	0° ~ 350° / -35° ~ 70° / 0° ~ 355°	0° ~ 350° / -35° ~ 70° / 0° ~ 355°	0° ~ 350° / -35° ~ 70° / 0° ~ 355°	0° ~ 355° / -30 ~ 75° / 0° ~ 355°	0° ~ 355° / -30 ~ 75° / 0° ~ 355°
IR Viewable Length	30m(98.42ft)		40m(131.23ft)	25m (82.02ft)	30m (98.42ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR V, WiseNR II (Based on AI engine)				
Digital Image Stabilization	–				
Analytics	**Classified object type**: Person/Vehicle **Attributes**: Person, Vehicle(car/bus/truck/motorcycle/bicycle) **Support Detection Shot** **Analytics events based on AI engine**: Motion detection, Object detection, Virtual line (Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Defocus detection, Tampering, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection				**Classified object type**: Person/Vehicle(car/bus/truck/motorcycle/bicycle) **Attributes**: Person(Upper/lower clothes color), Vehicle(Type-car/bus/truck/motorcycle/bicycle and color) **Support BestShot** **Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Defocus detection, Tampering, Virtual area(Appear/Disappear)
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap				
Alarm I/O	Input 1ea / Output 1ea				
Audio I/O	Selectable(mic in/line in) / Line out				
Video Compression	H.265/H.264: Main/High, MJPEG				
WiseStream	Manual, 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				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), **Hanwha Vision** Open Platform				
Operating Temperature / Humidity	-30°C~+55°C(-22°F~+131°F) 0~100%RH(Condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-30°C~+55°C(-22°F~+131°F) 0~100%RH(Condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-40°C~+55°C(-40°F ~ +131°F) / 0~100%RH(Condensing) Humidity control with AIR vent	-30°C ~ +55°C(-22°F ~ +131°F) / 0 ~100% RH(Condensing) * Start up should be done at above -30° C Humidity control with Air vent	
Certification	IP66, IK10, NEMA 250 type 4X			IP66, IK10	
Power Consumption	Max 12.95W, typical 5.3W		PoE: Max 9.8W, typical 4.0W	PoE: Max 8.1W, typical 4.0W	
Product Dimensions / Weight	∅140x110.2mm(∅5.51x4.34"), 875g(1.93 lb)		∅140x110.2mm(∅5.51x4.34"), 850g(1.87 lb)	∅120x97.5mm(∅4.72x3.84"), 579g(1.27 lb)	

QNV-C9011R / QNV-C8012 / QNV-C8011R

	QNV-C9011R 8MP AI IR Micro Vandal Dome Camera	QNV-C8012 8MP AI IR Micro Vandal Dome Camera	QNV-C8011R 5MP AI IR Micro Vandal Dome Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.03(1/30sec, 30IRE) BW: 0.003(1/30sec, 30IRE)	Color: 0.05(1/30sec, 30IRE) BW: 0.005(1/30sec, 30IRE)	Color: 0.03(1/30sec, 30IRE) BW: 0.003(1/30sec, 30IRE)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	3.0mm fixed focal	2.4mm fixed focal	3.0mm fixed focal
Angular Field of View	H: 108°/ V: 59°/ D: 127°	H: 123°/ V: 91°/ D: 159°	H: 100°/ V: 73°/ D: 129°
Pan / Tilt / Rotate	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	WiseNR II (Based on AI engine), SSNR V		
Digital Image Stabilization	–		
Analytics	Classified object type: Person/Vehicle; Attributes: Person, Vehicle(car/bus/truck/motorcycle/bicycle); Support DetectionShot; Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit); Analytics events: Defocus detection, Tampering, Virtual area(Appear/Disappear); * Some of the video analytics only works with people and vehicle detection		
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		
WiseStream	WiseStream III (Based on AI engine)		
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 5 profiles		
Edge Storage	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~+55°C(−40°F~+131°F) / 0~100%RH(Condensing) * Start up should be done at above −30°C Humidity control with AIR vent		
Certification	IP66, IK10, NEMA 250 type 4X		
Power Consumption	PoE: Max 8.5W, typical 4.9W	PoE: Max 7W, typical 4.9W	Max. 8.5W, typical 4.9W
Product Dimensions / Weight	ø 110x77mm(ø 4.33x3.03"), 522g(1.15 lb)		

QNO-C9083R / QNO-C8083R / QNO-C6083R / QNO-C8013R / QNO-C8023R

	QNO-C9083R 8MP AI IR Bullet Camera	QNO-C8083R 5MP AI IR Bullet Camera	QNO-C6083R 2MP AI IR Bullet Camera	QNO-C8013R 5MP AI IR Bullet Camera (NEW)	QNO-C8023R 5MP AI IR Bullet Camera (NEW)
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	8MP/30fps	5MP/30fps	2MP/30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.06(1/30sec, 30IRE) BW: 0.006(1/30sec, 30IRE)	Color: 0.07(1/30sec, 30IRE) BW: 0.007(1/30sec, 30IRE)		Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				
Focal Length (Zoom Ratio)	3.2~10.2mm(3.2x)			3.0mm fixed focal	4.0mm fixed focal
Angular Field of View	H: 104°(Wide)~31°(Tele) V: 55°(Wide)~17°(Tele) D: 124°(Wide)~35°(Tele)	H: 95°(Wide)~29°(Tele) V: 69°(Wide)~21°(Tele) D: 126°(Wide)~36°(Tele)	H: 102.0°(Wide)~32°(Tele) V: 54.2°(Wide)~18°(Tele) D: 119.0°(Wide)~36°(Tele)	H: 100°/ V: 73°/ D: 129°	H: 80°/ V: 59°/ D: 102°
Pan / Tilt / Rotate	0°~360° / 0°~100° / 0°~360°				
IR Viewable Length	30m(98.42ft)	30m(98.42ft)	40m(131.23ft)	25m(82.02ft)	30m (98.42ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR V, WiseNR II (Based on AI engine)				
Digital Image Stabilization	–				
Analytics	Classified object type: Person/Vehicle; Attributes: Person, Vehicle(car/bus/truck/motorcycle/bicycle); Support DetectionShot; Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit); Analytics events: Defocus detection, Tampering, Virtual area(Appear/Disappear); * Some of the video analytics only works with people and vehicle detection			Classified object type: Person/Vehicle; Attributes: Person(Upper/lower clothes color), Vehicle(car/bus/truck/motorcycle/bicycle /color); Support BestShot; Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit); Analytics events: Defocus detection, Tampering, Virtual area(Appear/Disappear); * Some of the video analytics only works with people and vehicle detection	
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap				
Alarm I/O	Input 1ea / Output 1ea				
Audio I/O	Selectable(mic in/line in) / Line out				
Video Compression	H.265/H.264: Main/High, MJPEG				
Smart Codec	Manual, WiseStream III (Based on AI engine)				
Streaming	Unicast(Up to 20 users) / Multicast / Multiple Streaming(Up to 5 profiles)				
Edge Storage	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	−30°C~+55°C(−22°F~+131°F) / 0~100%RH(Condensing) * Start up should be done at above −30°C Humidity control with AIR vent			−40°C~+55°C(−40°F ~ +131°F) / 0~100%RH(Condensing) Humidity control with AIR vent	−30°C~+60°C(−22°F ~ +140°F)(MAX) / 0~100% RH(Condensing) * Start up should be done at above −30°C Humidity control with Air vent
Certification	IP66, IK10, NEMA 250 type 4X				
Power Consumption	PoE: Max 12W, typical 5.3W	PoE: Max 12W, typical 5.3W	PoE: Max 8.9W, typical 3.7W	PoE: Max 8.1W, typical 4.0W	PoE: Max 8.1W, typical 4.0W
Product Dimensions / Weight	ø 93.4x245.8mm(ø 3.68x9.68"), 930g(2.05 lb)			ø 93.4x245.8mm(ø 3.68x9.68"), 890g(1.96 lb)	

	QND-C8013R	QND-C8023R	QNF-C9010	QNF-C9010V	QNE-C9013RL	QNE-C8013RL
	5MP AI IR Dome Camera	5MP AI IR Dome Camera	12MP Fisheye Camera	12MP Vandal Fisheye Camera	8MP AI Dual Light Flateye Camera	5MP AI Dual Light Flateye Camera
Imaging Device	1/2.8˝ CMOS		1/1.6˝ CMOS		1/2.8˝ CMOS	
Resolution / Max. Frame Rate	5MP / 30fps		12MP / 20fps		8MP / 30fps	5MP/30fps
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)		Color: 0.02(1/30sec, 30IRE) BW: 0.001(1/30sec, 30IRE)		Color: 0.034(1/30sec, 30IRE) BW: 0.0034(1/30sec, 30IRE)	Color: 0.022Lux (F1.2, 1/30sec) BW: 0.0022Lux (F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				–	
Focal Length (Zoom Ratio)	3.0mm fixed focal	4.0mm fixed focal	1.76mm fixed focal		3.0mm fixed focal	
Angular Field of View	H: 100˚ / V: 73˚/ D: 129˚	H: 80˚ / V: 59˚ / D: 102˚	H: 185˚ / V: 185˚ / D: 185˚		H: 108˚ / V: 59˚ / D: 127˚	H: 97˚ / V: 71˚ / D: 130˚
Pan / Tilt / Rotate Range	0˚~ 355˚ / 0˚~ 75˚ / 0˚~ 355˚	0˚~ 355˚ / 0˚~ 75˚ / 0˚~ 355˚	Digital Rotation		0˚~350˚ / 0˚~ 75˚ / 0˚~360˚	0˚~350˚ / 0˚~ 75˚ / 0˚~360˚
IR Viewable Length	25m (82.02ft)	30m (98.42ft)	–		Warm color: 30m(98.42ft), IR : 30m(98.42ft)	
Day & Night	Auto(ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	SSNR Ⅴ, WiseNRⅡ (Based on AI engine)					
Digital Image Stabilization	–					
Analytics	**Classified object type:** Person/Vehicle **Attributes:** Person(Upper/lower clothes color), Vehicle(car, bus, truck, motorcycle, bicycle/color) **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Defocus detection, Tampering, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection		**Classified object type:** Person/Vehicle **Attributes:** Person(Upper/lower clothes color), Vehicle (color) **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit/Appear/Disappear) **Analytics events:** Defocus detection, Tampering * Some of the video analytics only works with people and vehicle detectio		**Classified object type:** Person/Vehicle **Attributes:** Vehicle(car/bus/truck/motorcycle/bicycle) **Support DetectionShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Defocus detection, Tampering, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection	
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap		Based on AI engine: People counting, Queue management, Heatmap		Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap	
Alarm I/O	Input 1ea / Output 1ea * Alarm I/O is supported through an optional cable(SPP-C7200)		–		–	
Audio I/O	Built-in mic / –		–		–	
Video Compression	H.265/H.264: Main/High, MJPEG					
WiseStream	Manual(5ea area), WiseStreamⅢ(Based on AI engine)				Manual, WiseStreamⅢ(Based on AI engine)	
Streaming	Unicast(Up to 20 users) / Multicast / Multiple streaming(Up to 5 profiles)					
Edge Storage	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	−10°C~+45°C(+14°F ~ +113°F) / 0~95% RH(Non-Condensing)	−10˚C ~ +40˚C(+14˚F ~ +104˚F) / 0~90% RH	−40˚C ~ +55˚C(−40°F ~ +131°F) / 0 ~100% RH(condensing) * Start up should be done at above −30˚C		−40˚C~+60˚C(−40°F~+140°F) / 0 ~100% RH *Start up should be done at above −30˚C, Humidity control with AIR vent	
Certification	–	IP42	IP66, IK10, NEMA4X		IP66, IK10	
Power Consumption	PoE: Max 8.1W, typical 4.0W	PoE: Max 7.3W, typical 4.3W	PoE: Max 6.7W, typical 4.8W		PoE: Max 10.0W, typical 4.5W	
Product Dimensions / Weight	ø 110x90mm(ø 4.33x3.54˝), 317.0g(0.70 lb)	ø 99x52mm(ø 3.9x2.05˝), 360g(0.79lb)	ø 120x72.3mm(ø 4.7x2.85˝) 583g(1.28lb)		ø 140.0x99.6mm(ø 5.51x3.92˝), 790g(1.74 lb)	

	TNP-A9430RW	TNP-A7430RW	TNP-A6550RW
	4K AI Ruggedized PTZ Camera	4MP AI Ruggedized PTZ Camera	2MP AI RUGGEDIZED PTZ CAMERA
Imaging Device	1/1.8˝ CMOS		1/2.8˝ CMOS
Resolution / Max. Frame Rate	8MP / 30fps	4MP / 60fps	2MP / 60fps
Min. Illumination	Color(1/30sec, 30IRE): 0.06 Lux(F1.69, 1/30sec, 30 IRE) BW(1/30sec, 30IRE): 0.006 Lux(F1.69, IR LED Off), 0Lux (IR LED On)	Color(1/30sec, 30IRE): 0.04 Lux(F1.69, 1/30sec, 30 IRE) BW(1/30sec, 30IRE): 0.004 Lux(F1.69, IR LED Off), 0Lux (IR LED On)	Color(1/30sec, 30IRE): 0.02Lux(F1.6, 1/30sec) BW(1/30sec, 30IRE): 0.002 lux (1/30sec,F1.6), 0Lux(IR LED On)
Video Out	–	–	–
Focal Length (Zoom Ratio)	6.1~262.4 (Optical: 43, Digital: 1367)	6.1~262.4(Optical: 43, Digital: 1367)	4.75~261.4(Optical: 55, Digital: 1760)
Angular Field of View	Horizontal: 63.62˚(Wide)~1.77˚(Tele) Vertical: 37.69˚(Wide)~0.99˚(Tele) Diagonal: 70.9˚(Wide)~2.05˚(Tele)	Horizontal: 62.5˚(Wide)~1.72˚(Tele) Vertical: 38.42˚(Wide)~1.00˚(Tele) Diagonal: 70.34˚(Wide)~2.02˚(Tele)	Horizontal: 58.6˚(Wide)~1.23˚(Tele) Vertical: 34.8˚(Wide)~0.71˚(Tele) Diagonal: 65.5˚(Wide)~1.39˚(Tele)
Pan / Tilt / Rotate Range	360˚ Endless Upright: 140˚(50˚~−90˚), Canted: 165˚(75˚~−90˚), Inverted: 140˚(90˚~−50˚)		
IR Viewable Length	500m(1,640.42ft)	500m(1,640.42ft)	600m(1,968.50ft)
Day & Night	Auto(ICR)		
Wide Dynamic Range	120		
Digital Noise Reduction	WiseNR Ⅱ (Based on AI engine), SSNR Ⅴ		
Digital Image Stabilization	Support(built-in gyro sensor)		
Analytics	Classified Object Type: Person, Face, Vehicle, License plate Attributes: Person(Upper/Lower clothes color, Gender, Bag) Vehicle(Type(car, bus, truck, motorcycle, bicycle), Color) Face(Age, Gender, Face mask, Glasses) Thumbnail: BestShot Analytics Events: Based on AI Engine(Object detection, Virtual line(Crossing/Direction), Motion detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Auto tracking) Normal(Tampering, Audio detection, Shock detection)		
Business Intelligence	–	–	–
Alarm I/O	Support alarm I/O via optional I/O box	Support alarm I/O via optional I/O box	Support alarm I/O via optional I/O box
Audio I/O	Support via optional I/O box	Support via optional I/O box	Support via optional I/O box
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	Manual(5ea area), WiseStreamⅢ (Based on AI engine)		
Streaming	Unicast: Up to 20 users Multicast: Support Multiple Streaming: Up to 10 profiles		
Edge Storage	Micro SD/SDHC/SDXC: Max. 1TB x 1slot		
Application Programming Interface	ONVIF: S/G/T/M Others: SUNAPI(HTTP API), Hanwha Vision Open Platform		
Operating Temperature / Humidity	−50˚C~+60˚C(−58°F~+140°F)/ 0~100% RH(condensing)		
Certification	IP66, IP68, IK10, NEMA TS 2−2013 (2.1.9, 2.1.10, 2.2.4, 2.2.7, 2.2.8, 2.2.9), NEMA (250, 250 type 4X), NEMA (5, 5.6), MIL-STD-810H (501.7, 502.7, 503.7, 505.7, 506.6, 507.6, 509.7, 510.7, 521.4)		
Power Consumption	Max 71W, Typical 33.2W	Max 71W, Typical 33.2W	Max. 71W, typical 28.3W
Product Dimensions / Weight	Upright Normal/Inverted : 293.4(W)x205.6(D)x399.9(H)mm (11.55x8.09x15.74˝)Upright Canted : 293.4(W)x301.9(D)x363.6.9(H)mm (11.55x11.89x14.31˝) 10.5kg(9.5kg: Excluding installation part)	Upright Normal/Inverted : 293.4(W)x205.6(D)x399.9(H)mm (11.55x8.09x15.74˝)Upright Canted : 293.4(W)x301.9(D)x363.6.9(H)mm (11.55x11.89x14.31˝) 10.5kg(9.5kg: Excluding installation part)	Upright Normal/Inverted : 293.4(W)x205.6(D)x399.9(H)mm (11.55x8.09x15.74˝)Upright Canted : 293.4(W)x301.9(D)x363.6.9(H)mm (11.55x11.89x14.31˝) 10.4kg(9.4kg: Excluding installation part)

	TNO-C3082T QVGA Radiometric AI Thermal Camera	TNO-C3080T QVGA Radiometric AI Thermal Camera	TNO-C3062T QVGA Radiometric AI Thermal Camera	TNO-C3060T QVGA Radiometric AI Thermal Camera
Imaging Device	Uncooled micro bolometer (384x288)			
Resolution	768x576, 384x288			
Max. Frame Rate	8fps	30fps	8fps	30fps
NETD	≤20mK @25℃, F1.0		≤20mK @25℃	
Pixel pitch	17μm			
Focal Length	60mm fixed focal		35mm fixed focal	
Angular Field of View	H: 6.2° / V: 4.7° / D: 7.7° iFoV: 0.283 mRad		H: 10.7° / V: 8.0° / D: 13.3° iFoV: 0.486 mRad	
Pan / Tilt / Rotate Range	0°~350° / 0°~90° / 0°~350°			
Min. Object Distance	88.3m(289.7ft)		36.1m(118.44ft)	
Video out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.			
Analytics	**Classified object type:** Person/Vehicle **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)			
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional SPM-4210 I/O box			
Audio I/O	Selectable(mic in/line in) / Line out			
Temparature Detect Range	–			
Temparature Accuracy	–			
Temperature Detection	–			
WiseStream	Manual(5ea area), WiseStreamⅡ, WiseStreamⅢ(Based on AI engine)			
Streaming	Unicast(20 users) / Multicast, 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, **Hanwha Vision** Open Platform			
Memory	2GB RAM, 512MB Flash			
Operating Temperature	–40℃ ~ +60℃(–40℉ ~ +140℉) 0~95% RH(non-condensing)			
Certification	IP66, IP67, IK10, NEMA 4X, NEMA-TS 2(2.2.7, 2.2.8, 2.2.9)			
Power Consumption	PoE: Max 10.8W, typical 9W 12VDC: Max 9.4W, typical 7.7W			
Dimensions (WxHxD) / Weight	ϕ 107.3 x 275mm(ϕ 4.22/10.83"), 2,340g(5.16 lb)		ϕ 107.3 x 275mm(ϕ 4.22/10.83"), 2,370g(5.22 lb)	

	TNO-C3052T QVGA AI Tele lens Thermal Camera	TNO-C3050T QVGA AI Tele lens Thermal Camera	TNO-C3042T QVGA AI Tele lens Thermal Camera	TNO-C3040T QVGA AI Tele lens Thermal Camera	TNO-C3032TRA QVGA Radiometric AI Thermal Camera
Imaging Device	Uncooled micro bolometer (384x288)				
Resolution	768x576, 384x288				
Max. Frame Rate	8fps	30fps	8fps	30fps	8fps
NETD	≤20mK@25° C, F1.0		≤20mK @25℃		≤30mK
Pixel pitch	17μm				
Focal Length	19mm fixed focal		13mm fixed focal		9.7mm fixed focal
Angular Field of View	H: 28.5° / V: 21.4° / D: 23.9° iFoV: 0.895 mRad		H: 38° / V: 29° / D: 35.5° iFoV: 1.308 mRad		H: 38° / V: 29° / D: 47° (iFoV: 1.8 mRad)
Min. Object Distance	10.6m(34.78ft)		5m(16.40ft)		2.8m(9.19ft)
Pan / Tilt / Rotate Range	0°~350° / 0°~90° / 0°~350°				–
Video out	USB: Micro USB Type B, 768x576 for installation				USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.
Analytics	**Classified object type:** Person/Vehicle **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)				**Classified object type:** Person/ Vehicle **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear), Temperature detection, Tank level detection, Temperature change detection
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional SPM-4010 I/O box				2 configurable I/O ports
Audio I/O	Selectable(mic in/line in) / Line out				
Temparature Detect Range	–				–40℃~550℃(–40℉~1,022℉)
Temparature Accuracy	–				below 150℃ up to ± 2℃ Above 150℃ up to ± 15% * based on measurements in a room temperature environment. Auto Temperature mode
Temperature Detection	–				10 Polygonal ROI zones
Additional	Temperature change detection (3 areas)				Hybrid palettes, Spot temperature reading (ROI condition monitoring: Above/ Below/ Increase/ Decrease)
WiseStream	Manual(5ea area), WiseStreamⅡ, WiseStreamⅢ				Manual, WiseStreamⅢ
Streaming	Unicast(20 users) / Multicast / 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) **Hanwha Vision** Open Platform				
Memory	2GB RAM, 512MB Flash				
Operating Temperature	–40℃~+60℃(–40℉ ~ +140℉): +74°C(+165° F)(MAX) based on NEMA-TS 2(2.2.7) 0~95% RH(non-condensing)				–40℃~+60℃(–40℉~+140℉) / 0~95% RH(non-condensing)
Certification	IP66, IP67, IK10, NEMA4X, NEMA-TS 2(2.2.7, 2.2.8, 2.2.9), MIL-STD-810H				IP66, IP67, IK10, NEMA 250 type 4X
Power Consumption	PoE: Max 10.8W, typical 9W, 12VDC: Max 9.4W, typical 7.7W				
Dimensions (WxHxD) / Weight	ϕ 93.8 x 233.5mm(ϕ 3.69/9.19"), 1,730g(3.81 lb)				ϕ 93.8x233.5mm(ϕ 3.69X/9.19"), 1,700g(3.75 lb)

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	TNO-C3030TRA	TNO-C3022TRA	TNO-C3020TRA	TNO-C3012TRA	TNO-C3010TRA
	QVGA Radiometric AI Thermal Camera	QVGA Radiometric AI Thermal Camera	QVGA Radiometric AI Thermal Camera	QVGA Radiometric AI Thermal Camera	QVGA Radiometric AI Thermal Camera
Imaging Device	Uncooled micro bolometer (384x288)				
Resolution	768x576, 384x288(original)				
Max. Frame Rate	30fps	8fps	30fps	8fps	30fps
NETD	≤30mK		<30mK		
Pixel pitch	17μm				
Focal Length	9.7mm fixed focal	6.6mm fixed focal		4.4mm fixed focal	
Angular Field of View	H: 38° / V: 29° / D: 47° (iFoV: 1.8 mRad)	H: 60° / V: 44° / D: 78° (iFoV: 2.6 mRad)		H: 90° / V:65° / D:119° (iFoV: 3.9 mRad)	H:90° / V:65.3° / D:118.6 (iFoV: 3.9 mRad)
Min. Object Distance	2.8m(9.19ft)	1.4m(4.59ft)		0.6m(1.97ft)	
Video out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				
Analytics	**Classified object type:** Person/Vehicle **Support BestShot** **Analytics events based on AI engine**: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)	**Classified object type**: Person/Vehicle **Support BestShot** **Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)	**Classified object type**: Person/Vehicle **Support BestShot** **Analytics events based on AI engine**: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)	**Classified object type**: Person/Vehicle **Support BestShot** **Analytics events based on AI engine**: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)	**Classified object type**: Person/Vehicle **Support BestShot** **Analytics events based on AI engine**: Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events**: Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)
Alarm I/O	2 configurable I/O ports				
Audio I/O	Selectable(mic in/line in) Line out				
Temparature Detect Range	-40°C~550°C(-40°F~1,022°F)				
Temparature Accuracy	below 150°C: up to ± 2°C Above 150°C: up to ± 15% * based on measurements in a room temperature environment. Auto Temperature mode				
Temperature Detection	10 Polygonal ROI zones				
Additional	Hybrid palettes, Spot temperature reading (ROI condition monitoring: Above/ Below/ Increase/ Decrease)				
WiseStream	Manual(Sea area), WiseStream II , WiseStreamIII(Based on AI engine)				
Streaming	Unicast(20 users) / Multicast / 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) 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, P67, IK10, NEMA 250 type 4X				
Power Consumption	PoE: Max 10.8W, typical 9W, 12VDC: Max 9.4W, typical 7.7W				
Dimensions (WxHxD) / Weight	ø 93.8x233.5mm(ø 3.69X/9.19"), 1,700g(3.75 lb)				

	TNM-C2712TDR		TNM-C2722TDR	
	Early Fire Detection Bi-spectrum Thermal Camera		Early Fire Detection Bi-spectrum Thermal Camera	
	Thermal	Visible	Thermal	Visible
Imaging Device	Uncooled micro bolometer (160x120)	1/2.8" CMOS	Uncooled micro bolometer (160x120)	1/2.8" CMOS
Resolution / Max. Frame Rate	VGA / 8fps	3MP / 30fps	H.265/H.264 8fps MJPEG 5fps	H.265/H.264 30fps/25fps(60Hz/50Hz) MJPEG 5fps
Min. Illumination	-	Color: 0.06Lux(1/30sec, 30IRE) BW: 0.06Lux(1/30sec, 30IRE)	F1.1	color/BW: 0.06
Focal Length (Zoom Ratio)	1.2mm	3.06mm	1.9mm	4.46mm
Angular Field of View	H: 95° / V: 69° / D: 119°	H: 100° / V: 73° / D: 129°	H: 57° / V: 44° / D: 71°	H: 69° / V: 50.8° / D: 88.9°
Pan / Tilt / Rotate	0° ~ 360° / 0° ~ 70° / 0° ~ 360°			
IR Viewable Length	-			
Day & Night	-	Auto(Electrical)	-	Auto(Electrical)
Wide Dynamic Range	-	BLC, WDR, SSDR	-	BLC, WDR, SSDR
Digital Noise Reduction	-	SSNR V	-	SSNR V
Digital Image Stabilization	-	Support	-	Support
Analytics	Temperature detection, Temperature difference detection, Motion detection	Early fire detection, Tampering, Audio detection, Motion detection	Temperature detection, Temperature difference detection, Motion detection	Temperature detection, Temperature difference detection, Motion detection
Business Intelligence	-		-	
Alarm I/O	Input 1ea / Output 1ea			
Audio I/O	Selectable(mic in/line in) / Line out			
Video Compression	H.265/H.264: Main/High, MJPEG			
Edge Storage	Micro SD/SDHC/SDXC 1slots 512GB			
Operating Temperature / Humidity	-30°C ~ +55° C(-22° F ~ +131°F) / 0~95% RH(non-condensing), * Start up should be done at above -10°C			
Certification	IP66, IP67, IK09 (except lenses in front)			
Power Consumption	PoE: Max 10.8W, typical 6.2W			
Product Dimensions / Weight	ø 110x97mm(ø 4.33x3.82"), 650g(1.43lb)			

TNM-C4960TD — Bi-spectrum AI Thermal Camera / TNM-C4950TD — Bi-spectrum AI Thermal Camera

	TNM-C4960TD Thermal	TNM-C4960TD Visible	TNM-C4950TD Thermal	TNM-C4950TD Visible
Imaging Device	Uncooled micro bolometer	1/1.8" CMOS	Uncooled micro bolometer (640x480)	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, 30IRE) BW: 0.005Lux(F1.7, 1/30sec, 30IRE)	–	Color: 0.06Lux(F1.7, 1/30sec, 30IRE) BW: 0.005Lux(F1.7, 1/30sec, 30IRE)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	
Focal Length (Zoom Ratio)	25mm	10.9~29mm(2.6x)	13.5mm	10.9~29mm(2.6x)
Angular Field of View	H: 17°, V: 13°, D: 22°	H:42.0°(Wide)~15.0°(Tele) / V:23°(Wide)~8°(Tele) / D:49°(Wide)~17°(Tele)	H: 31.9° V: 24.2°, D: 39.5°	H:42.0°(Wide)~15.0°(Tele) / V:22.8°(Wide)~8.4°(Tele) / D:48.7°(Wide)~17.1°(Tele)
Pan / Tilt / Rotate	−170°~+170° / −40°~50° / None		–	
IR Viewable Length	–			
Day & Night	–	Auto(ICR)	–	Auto(ICR)
Wide Dynamic Range	–	WDR(120dB)	–	WDR(120dB)
Digital Noise Reduction	–	WiseNR II, SSNR V	–	SSNR V, WiseNR II
Digital Image Stabilization	–	Support(built-in gyro sensor)	–	Support(built-in gyro sensor)
Analytics	Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam. Analytics events : Motion detection, Temperature change detection	Analytics events based on AI engine – 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. Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear). * Some of the video analytics only works with people and vehicle detection	Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam. Analytics events : Motion detection, Temperature change detection	Analytics events based on AI engine – Object detection(Person, face, Vehicle(car/bus/truck/motorcycle/bicycle), License plate), Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam. Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear). * Some of the video analytics only works with people and vehicle detection
Business Intelligence	Vehicle counting			
Alarm I/O	4 configurable I/O ports			
Audio I/O	–	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms		
Video Compression	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 Multiple streaming(Up to 3 profiles)			
Edge Storage	256GB x 2slot(Total 512GB)			
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform (visible channel only)			
Operating Temperature / Humidity	−40°C~+60°C(−58°F~+140°F) * Start up should be done at above −30°C, less than 95% RH(non-condensing)			
Certification	IP67, IK10, NEMA TS 2−2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X			
Power Consumption	PoE+ : Max 23.5W, Typ 16.0W 12VDC : Max 19.5W, Typ 14.0W			
Product Dimensions / Weight	353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4,530g(9.99lb)			

TNM-C4940TD — Bi-spectrum AI Thermal Camera / TNM-C4942TDR — Radiometric Bi-spectrum AI Thermal Camera

	TNM-C4940TD Thermal	TNM-C4940TD Visible	TNM-C4942TDR Thermal	TNM-C4942TDR Visible
Imaging Device	Uncooled micro bolometer	1/1.8" CMOS	Uncooled micro bolometer	1/1.8" CMOS
Resolution / Max. Frame Rate	640x480 / 30fps	8M / 30fps	640x480 / 8fps	8M / 30fps
Min. Illumination	–	Color: 0.06Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	–	Color: 0.06Lux(F1.3, 1/30sec) 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. Preview and installation ONLY. Requires WiFi dongle.	
Focal Length (Zoom Ratio)	9.1mm	4.4~9.3mm(2.2x)	9.1mm	4.4~9.3mm varifocal
Angular Field of View	H: 50.0°/ V: 37.0°/ D: 63.8° (iFoV: 1.319 mRad)	H:112.1°(Wide)~47.5°(Tele) / V:58.0°(Wide)~26.6°(Tele) / D:137.5°(Wide)~54.6°(Tele)	H: 50.0°/ V: 37.0°/ D: 63.8° (iFoV: 1.319 mRad)	H:112.1°(Wide)~47.5°(Tele) / V:58.0°(Wide)~26.6°(Tele) / D:137.5°(Wide)~54.6°(Tele)
Pan / Tilt / Rotate	−170° ~+170° / −40° ~ 50° / −			
IR Viewable Length	–		–	
Day & Night	–	Auto(ICR)	–	Auto(ICR)
Wide Dynamic Range	–	WDR(120dB)	–	WDR(120dB)
Digital Noise Reduction	–	WiseNR II, SSNR V	–	SSNR V, WiseNR II
Digital Image Stabilization	–	Support(built-in gyro sensor)	–	Support(built-in gyro sensor)
Analytics	Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam. Analytics events : Motion detection, Temperature change detection	Analytics events based on AI engine : 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. Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear). * Some of the video analytics only works with people and vehicle detection	Classified object type : Person/Vehicle Support BestShot. Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit). Analytics events : Motion detection, Temperature detection	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Type:car/bus/truck/motorcycle/bicycle) Support BestShot. Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit). Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear). * Some of the video analytics only works with people and vehicle detection
Business Intelligence	Vehicle counting		–	
Alarm I/O	–		4 configurable I/O ports	
Audio I/O	–		Selectable(mic in/line in)	
Video Compression	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 / Multiple Streaming(Up to 3 profiles)			
Edge Storage	Micro SD/SDHC/SDXC 256GB x 2slot(Total 512GB)			
Application Programming Interface	ONVIF Profile S/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform (visible channel only)			
Operating Temperature / Humidity	−40°C~+60°C(−58°F~+140°F) * Start up should be done at above −30°C, less than 95% RH(non-condensing)			
Certification	IP66, IP67, IK10, NEMA TS 2(2.2.8, 2.2.9), NEMA 250 type 4X			
Power Consumption	PoE+ : Max 25.5W, Typ 16.0W 12VDC : Max 21.5W, Typ 14.0W			
Product Dimensions / Weight	353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4,530g(9.99lb)			

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AI Camera

TNM-C4940TDR
Radiometric Bi-spectrum AI Thermal Camera

TNM-C3622TDR
Radiometric Bi-spectrum AI Thermal Camera

	TNM-C4940TDR Thermal	TNM-C4940TDR Visible	TNM-C3622TDR Thermal	TNM-C3622TDR Visible
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14µm, 12µm, <60mK)	1/1.8" CMOS	Uncooled micro bolometer (Spectral range: 8~14µm, 12µm, ≤50mK)	1/2.8" CMOS
Resolution / Max. Frame Rate	640x480 / 30fps	8MP/ 30fps	320x240/ 8fps	2MP / 30fps
Min. Illumination	–	Color: 0.06Lux(F1.3, 1/30sec) BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)	–	Color: 0.05 lux(F1.6, 1/30sec) B/W: 0.005 lux(F1.6, 1/30sec)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB : Micro USB Type B, 1280x720 for installation	
Focal Length (Zoom Ratio)	9.1mm	4.4~9.3mm	4.7mm	4mm
Angular Field of View	H: 50.0°/ V: 37.0°/ D: 63.8° (iFoV: 1.319 mRad)	H:112.1°(Wide)~47.5°(Tele) / V:58.0°(Wide)~26.6°(Tele) / D:137.5°(Wide)~54.6°(Tele)	H: 50.0°/ V: 36.4°/ D: 65.3° (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)			
Analytics	Classified object type : Person/Vehicle Support BestShot Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events Motion detection, Temperature detection	Classified object type : Person/Face/Vehicle/License plate Attributes: Vehicle(Type(car/bus/truck/motorcycle/bicycle) Support BestShot Analytics events based on AI engine : Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/ Disappear) * Some of the video analytics only works with people and vehicle detection	Analytics Events: Motion detection, Virtual area(Intrusion/ Enter/Exit), Virtual line(Crossing, Direction) , Temperature detection	Classified object type: Person, Face Analytics events based on AI engine : Object Detection Anlytics events: Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)
Business Intelligence	–		–	
Alarm I/O	4 configurable I/O ports		Input 1ea / Output 2ea	
Audio I/O	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	Manual, WiseStream II	Manual, WiseStream II
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)		Unicast(20 users) / Multicast Multiple streaming(Up to 6 profiles)	
Edge Storage	Micro SD/SDHC/SDXC 256GB x 2slot(Total 512GB)		Micro SD/SDHC/SDXC 1slot 256GB	
Application Programming Interface	ONVIF Profile S/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform (visible channel only)		ONVIF Profile S/T/M SUNAPI(HTTP API)	
Operating Temperature / Humidity	−40°C~+60°C(−58°F~+140°F) * Start up should be done at above −30°C 0~95% RH(non-condensing)		−10°C~+55°C(+14°F~+131°F) / Less than 95% RH(non-condensing)	
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"), 4,530g(9.99lb)		135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1,700g(3.77lb)	

AI Camera

TNM-C3620TDR
Radiometric Bi-spectrum AI Thermal Camera

TNB-9000
8K Box Camera

TNO-A26081
26MP AI Bullet camera

TNV-C8011RW
AI Wall Mount Camera

	TNM-C3620TDR Thermal	TNM-C3620TDR Visible	TNB-9000	TNO-A26081	TNV-C8011RW
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14µm, 12µm, ≤50mK)	1/2.8" CMOS	43.3mm Full-frame CMOS	Diagonal 28.3mm 1.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	320x240 / 30fps	2MP / 30fps	8K / 15fps, 24MP / 20fps, 15MP / 30fps, 4K / 60fps	26MP / 30fps	5MP / 30fps
Min. Illumination	–	Color: 0.05 lux(F1.6, 1/30sec) B/W: 0.005 lux(F1.6, 1/30sec)	Color: 0.015 Lux(F1.4) BW: 0.0015 Lux(F1.4)	Color: 0.2Lux(F4.0, 1/30sec, 30IRE) B/W: 0.02Lux(F4.0, 1/30sec)	Color: 0.038Lux(F1.6, 1/30sec, 30IRE) BW: 0.0038Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		HDMI	USB: Micro USB Type C, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	4.7mm fixed focal	4mm fixed focal	–	55~250mm(4.54x) manual varifocal	1.6mm fixed focal
Angular Field of View	H: 50.0°/ V: 36.4°/ D: 65.3° (iFoV: 2.553 mRad)	H: 87.6° / V: 46.4°/ D: 104.5°	Canon 24mm, H: 57.4° , Canon 35mm, H: 42.6° Canon 50mm, H: 30.9° , Canon 85mm, H: 19.1° Canon 100mm, H: 16.0° , Canon 70~200mm, H: 22.8° ~ 8.0°	H: 24° (Wide) ~ 5.4° (Tele) V: 16° (Wide) ~ 3.6° (Tele) D: 29° (Wide) ~ 6.5° (Tele)	H: 175° / V: 125° / D: 175°
IR Viewable Length	–				15m(49.21ft)
Day & Night	–	Auto(ICR)			
Wide Dynamic Range	–	extremeWDR(150dB)	–		120dB
Digital Noise Reduction	–	SSNR V			SSNR V, WiseNR II (Based on AI engine)
Digital Image Stabilization	Support(built-in gyro sensor)		–		
Analytics	Motion detection, Virtual area(Intrusion/Enter/ Exit), Virtual line(Crossing, Direction) , Temperature detection	Classified object type: Person, Face Analytics events based on AI engine : Object detection. Analytics events: Motion detection, Tampering, Audio detection, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Classified object type: Person/Face/Vehicle/ License plate Attributes: Person(Upper/Lower clothes color, Gender, Bag), Face(Age, Gender, Glasses), Vehicle(Type(car/bus/truck/motorcycle/ bicycle and Color) Support Bestshot per object Analytics events based on AI engine: Object detection, Virtual line (Crossing/Direction), Virtual area (Loitering/Intrusion/Enter/Exit) Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear) *Some of the video analytics only works with people and vehicle detection	Classified object type: Person/Face/Vehicle/ License plate Attributes: Person(Upper/Lower clothes color, Gender, Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type(car/bus/truck/ motorcycle/bicycle and Color) Support Bestshot per object Analytics events based on AI engine : Object/ Motion detection, Virtual line (Crossing/ Direction), Virtual area (Loitering/Intrusion/ Enter/Exit), Analytics events: Defocus detection, Tampering, Audio detection, Virtual area(Appear/Disappear) *Some of the video analytics only works with people and vehicle detection	Classified object type: Person/Face/ Vehicle Attributes: Vehicle(Type(car/bus/truck/ motorcycle/bicycle) Analytics events based on AI engine: Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events: Defocus detection, Tampering, Shock detection, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/Disappear) * Some of the video analytics only works with people and vehicle detection
Business Intelligence	–				Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap
Alarm I/O	Input 1ea, Output 2ea		Input 1ea, Output 1ea		2 configurable I/O ports
Audio I/O	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: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	Manual, WiseStream II		Manual(5ea area), WiseStream III (Based on AI engine)		
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 6 profiles)		Unicast (6 users) / Multicast / Multiple streaming (up to 6 profiles)	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB		micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC 512GB x 2slot(Total 1TB)	Micro SD/SDHC/SDXC 1slot 256GB
Application Programming Interface	ONVIF Profile S/T/M, SUNAPI(HTTP API)		ONVIF Profile S/G/T, SUNAPI(HTTP API)	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform	ONVIF Profile S/G/T/M SUNAPI(HTTP API), Hanwha Vision Open Platform
Operating Temperature / Humidity	−10°C~+55°C(+14°F~+131°F) / Less than 95% RH(non-condensing)		0°C ~ +45°C (32°F ~ +122°F)	−40°C~+55°C (−40°F~+131°F) 0~100% RH(condensing)	−30°C ~ +55°C(−22°F~+131°F) / Less than 95% RH(non-condensing)
Certification	–		EMC		IP66, IK10
Power Consumption	PoE+: Max. 17.0W, typical 12.5W 12VDC: Max. 14.5W, typical 11.0W		PoE: Max 30W, typical 20W 12VDC: Max 26W, typical 18W	PoE++: Max 44.3W, Typical 24.9W 12VDC: Max 35.4W, typical 19.6W	Max 11.5W / Typ 4.8W
Product Dimensions / Weight	135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1,700g(3.77lb)		120x118.5x179mm, 2,100g(4.55lb)	193.5x193.5x532mm (7.62"x7.62"x20.94"), 8,100g(17.86lb)	80(W)x167(H)x57(D)mm(3.15x6.56x2.24"), 600g(1.32lb)

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	TNO-C8083E 5MP AI Explosion-proof Camera	TNV-C8014RM T AI Mobile	TNV-C8034RM T AI Mobile	TNV-C7013RC AI Corner Mount Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/1.8" CMOS
Resolution / Max. Frame Rate	5MP / 30fps	5MP / 30fps	5MP / 30fps	3MP / 30fps
Min. Illumination	Color: 0.07Lux(F1.6, 1/30sec, 30IRE) BW: 0.007Lux(F1.6, 1/30sec, 30IRE)	Color: 0.03Lux (F1.6, 1/30sec, 30IRE) BW: 0.003Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.03Lux (F1.65, 1/30sec, 30IRE) BW: 0.003Lux (F1.65, 1/30sec, 30IRE), 0Lux(IR LED on)	Color(1/30sec, 30IRE) 0.04 BW(1/30sec, 30IRE) 0.004
Video Out	–	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	–
Focal Length (Zoom Ratio)	3.2~10.2mm(3.2x)	3.0mm	6.0mm	2.39mm
Angular Field of View	H: 95°(Wide)~29°(Tele) V: 69°(Wide)~21°(Tele) D: 126°(Wide)~36°(Tele)	H: 100° / V: 73° / D: 129°	H: 50° / V: 37° / D: 64°	H: 128° / V: 100°
Pan / Tilt / Rotate	–	± 5° / 0° ~ 67° / ±90°	± 5° / 0° ~ 67° / ±90°	–
IR Viewable Length	–	30m(98.42ft)	30m(98.42ft)	WiseIR 15m (49.21ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	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)
Digital Image Stabilization	–	Support	Support	Support
Analytics	**Classified object type**: Person/Vehicle Attributes: Vehicle(Type:car/bus/truck/motorcycle/bicycle) **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Defocus detection, Motion detection, Tampering, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection	**Classified object type:** Person/Vehicle **Attributes:** Person(Upper/lower clothes color), Vehicle(car/bus/truck/motorcycle/bicycle and color) **Support BestShot** **Analytics events based on AI engine:** Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) **Analytics events:** Defocus detection, Tampering, Shock detection, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection	(same as TNV-C8014RM)	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection Defocus detection, Tampering, Fog detection, Audio detection, Sound classification, Virtual area(Appear/Disappear)
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap	
Alarm I/O	–	–	–	In/Out 2 configurable I/O ports Support extra alarm I/O via optional I/O box
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), Built-in mic Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	Manual(Sea area), WiseStreamIII(Based on AI engine)	Manual(Sea area), WiseStreamIII(Based on AI engine)	Manual(Sea area), WiseStreamIII(Based on AI engine)	WiseStreamIII
Streaming	Unicast(20 users) / Multicast / Multiple streaming (Up to 5 profiles)	Unicast(20 users) / Multicast, Multiple streaming(Up to 5profiles)	Unicast(20 users) / Multicast, Multiple streaming(Up to 5profiles)	Unicast Up to 20 users Multicast Support Multiple Streaming Up to 10 profiles
Edge Storage		Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC Max. 1TB x 1slot
Application Programming Interface	ONVIF Profile S/T/M SUNAPI(HTTP API), Hanwha Vision Open Platform	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIFS/G/M/T Others SUNAPI(HTTP API), Hanwha Vision Open Platform
Operating Temperature / Humidity	-30°C~+55°C(-22°F~+131°F) 0~95% RH(non-condensing) * Start up should be done at above -30°C	-40°C ~ +55°C(-40°F ~ +131°F) / 0 ~100% RH(Condensing) * Start up should be done at above -30°C, Humidity control with AIR vent	-40°C ~ +55°C(-40°F ~ +131°F) / 0 ~100% RH(Condensing) * Start up should be done at above -30°C, Humidity control with AIR vent	-10° C~+55° C(+14° F~+131° F) 0~95% RH(non-condensing) Humidity control with AIR vent
Certification	IP66, IK10	IP66, IK10	IP66, IK10	IP6K9K, IK11, NEMA 250 type 4X, IP66, IP69
Power Consumption	PoE: Max 9.50W, typical 5.30W	PoE: Max 7.2W, typical 4.2W	PoE: Max 7.2W, typical 4.2W	PoE: Max 12.95W, typical 9.7W DC : Max 12.7W, typical 9.0W
Product Dimensions / Weight	ø 110.5 x 215mm(ø 4.35x8.46"), 4,770g(10.51 lb)	106(x105x55mm(4.17x..4.13x2.17"), 466g(1.03 lb)	106(x105x55mm(4.17x..4.13x2.17"), 466g(1.03 lb)	198.3(W)x104.8(H)x198.6(D)mm (7.87"x4.13"x7.82"), 1,935g (4.27lb)

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	PNO-A9311RLP 8MP 31x AI LPR 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 IR 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 / Max. Frame Rate	8MP / 30fps	8MP / 30fps	8MP / 30fps	8MP / 30fps	3MP / 55fps
Min. Illumination	Color: 0.075Lux(F1.36, 1/30sec, 30IRE) BW: 0.007Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on)	Color(1/30sec, 30IRE) 0.05 BW(1/30sec, 30IRE) 0.005	Color(1/30sec, 30IRE) 0.05 BW(1/30sec, 30IRE) 0.005	Color(1/30sec, 30IRE) 0.03 BW(1/30sec, 30IRE) 0.003	Color(1/30sec, 30IRE) 0.1 BW(1/30sec, 30IRE) 0.01
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	(same)	(same)	(same)	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.
Focal Length (Zoom Ratio)	6.91~214.7mm (31x)	4.5~10mm(2.2x)	4.5~10mm(2.2x)	–	6.8~120mm(18x)
Angular Field of View	H: 60.92°(Wide)~2.2°(Tele) V: 35.26°(Wide)~1.24°(Tele) D:69.18°(Wide)~2.52°(Tele)	H:101.4°(Wide)~45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~52.3°(Te le)	H:101.4°(Wide)~45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~52.3°(Te le)	–	H: 54.5 º (Wide)~3.4 º (Tele) V: 42.3 º (Wide)~2.5 º (Tele)
Pan / Tilt / Rotate	–	–	0°~360° / -45°~85° / 0°~355°	–	–
IR Viewable Length	WiseIR 70m(229.66ft)	WiseIR 30m(98.42ft)	30m(98.42ft)	–	50m (164ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto (ICR)
Wide Dynamic Range	120dB	120dB	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)	Support(built-in gyro sensor)	Support(built-in gyro sensor)	–
Analytics	–	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection	Motion detection, Tampering, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)
Business Intelligence	–	–	–	–	–
Alarm I/O	2 configurable I/O ports, DC 12V output (Max. 50mA)	1/1	1/1	1/1	4 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) / 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/Baseline/High, MJPEG
WiseStream	Manual(Sea area), WiseStream II	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 6 profiles	Unicast Up to 6 users , Multicast Support, Multiple Streaming Up to 3 profiles	Unicast Up to 6 users , Multicast Support, Multiple Streaming Up to 3 profiles	Unicast Up to 6 users , Multicast Support, Multiple Streaming Up to 3 profiles	Unicast Up to 20 users, Multicast Support, Multiple Streaming Up to 10 profiles
Edge Storage	Micro SD/SDHC/SDXC 1slot (32GB card preinstalled)	Micro SD/SDHC/SDXC 1slot (32GB card preinstalled)	Micro SD/SDHC/SDXC 1slot (32GB card preinstalled)	Micro SD/SDHC/SDXC 1slot (32GB card preinstalled)	Micro SD/SDHC/SDXC 1slot (32GB card preinstalled)
Application Programming Interface	ONVIF Profile S/G/T/M 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)	ONVIF S/G/T SUNAPI(HTTP API), Hanwha Vision Open Platform
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~90%RH(Non-condensing) * Start up should be done at above -30°C	-40°C~+55°C(-40°F~+131°F) / 0~90%RH(Non-condensing) * Start up should be done at above -30°C	-40°C~+55°C(-40°F~+131°F) / 0~90%RH(Non-condensing) * Start up should be done at above -30°C	-10°C~+55°C(+14°F~+131°F) / 0~90%RH(Non-condensing)	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing)
Certification	IP66, IP67, IK10, NEMA4X	–	–	–	IP66, IK10, NEMA 250 type 4X, NEMA TS 2-2013
Power Consumption	PoE+: Max 25.5W, typical 14.0W 12VDC: Max 24.0W, typical 12.7W	PoE+: Max 20.0W, typical 17.00W 12VDC: Max 18.00W, typical 16.00W	PoE+:Max 20.00W, typical 17.00W 12VDC: Max 18.70W, typical 15.00W	PoE+: Max 16.50W, typical 12.50W 12VDC: Max 13.50W, typical 10.80W	PoE : Max 50W, Typical 27W 12VDC: Max 47.5W, Typical 25W
Speed Description	High Speed	Low to Moderate Speed	Low to Moderate Speed	Regular Speed	Regular Speed / High Speed
Lane Coverage	Up to 2 lanes (5m/18ft Wide)	1 Lane 3.6m/12ft wide (with built in IR) 2 Lanes 8.1m/26ft wide (with built in IR)	1 Lane 3.6m/12ft wide (with built in IR) 2 Lanes 8.1m/26ft wide (with built in IR)	1 Lane 3.6m/12ft wide (with built in IR) 2 Lanes 8.1m/26ft wide (with built in IR)	Up to 2 lanes
Speed Limit	Up to 130kmh (80mph)	Up to 70kmh (45mph) (with built in IR) / Up to 40kmh (25mph) (with built in IR)	Up to 70kmh (45mph) (with built in IR) / Up to 40kmh (25mph) (with built in IR)	1 Lane Up to 140km/h (87mph) 2 Lanes Up to 120km/h (74mph)	Up to 200kmh (125mph) for 2 lanes
Vehicle Recognition	Make : 100+, Model : 4700+, Color : 11 colors	Make : 100+, Model : 4700+, Color : 11 colors	Make : 100+, Model : 4700+, Color : 11 colors	Make : 100+, Model : 4700+, Color : 11 colors	Make : 70+, Model : 600+, Color : 11 colors
Product Dimensions / Weight	ø 136.2x358.7mm(ø 5.36x14.12") (Without sunshield), 3,200g(7.05lb)	ø 91.0x368.6mm (3.58" x 14.51") (Without sunshield), 2,480g (5.47lb)	ø 180x125mm(7.09x4.92"), 1,900g (4.19lb)	81x67x165mm(3.19x2.64x6.48"), 0.88kg(1.94lb)	186.9(W)x 259.3(H)x293.7(D)mm (7.32x10.2x11.56"), 4,762g(10.5 lb)

AI Camera | BCR Camera | 53

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AI Camera / BCR Camera

	PNV-A6081R-E1T 2MP Camera with 1TB Rugged SSD	PNV-A6081R-E2T 2MP Camera with 2TB Rugged SSD	TNS-9050IBC Barcode Reader Camera
Imaging Device	1/2˝ CMOS		Global Shutter Mono 1˝ CMOS / Global Shutter Color 1˝ CMOS
Resolution / Max. Frame Rate	2MP/120fps		Mono: Max 4096x2160, Max 20fps Color: Max 4096x2160, Max 20fps
Min. Illumination	Color(1/30sec, 30IRE) 0.007 BW(1/30sec, 30IRE) 0.0007		–
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation		–
Focal Length (Zoom Ratio)	4.38~9.33mm(2.13x)		25mm
Angular Field of View	H: 104˝(Wide)~44˝(Tele) V: 55˝(Wide)~24˝(Tele) D: 124˝(Wide)~51˝(Tele)		Mono: H30.4˝ / V16.6˝ / D34.2˝ Color: H30.4˝ / V16.6˝ / D34.2˝
Pan / Tilt / Rotate Range	0˝~360˝ / 0˝~85˝ / 0˝~355˝		–
IR Viewable Length	40m(131.23ft)		–
Day & Night	Auto(ICR)		–
Wide Dynamic Range	120dB		–
Digital Noise Reduction	SSNR Ⅴ, WiseNR Ⅱ (Based on AI engine)		SSNR Ⅴ
Digital Image Stabilization	–		–
Analytics	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)		Barcode recognition - Barcode type: 1D Code, Code128 / CODE39 / CODE93 / Codabar / ITF(Interleaved 2 of 5) / UPC / EAN 2D Code, QR code / DataMatrix / Maxicode / PDF417
Business Intelligence	–		–
Alarm I/O	Selectable(mic in/line in), Line out		Out 1EA
Audio I/O	–		–
Video Compression	H.265/H.264: Main/High, MJPEG		–
WiseStream	WiseStreamⅢ		–
Streaming	Unicast Up to 6 users Multicast Support Multiple Streaming Up to 5 profiles		Unicast(6 users) / Multicast Mono: (1) 4096x2160 @ 15/18/20fps all codec Color: (1) 4096x2160 @ 15/18/20fps all codec (2) 640x360 @ 15/18/20fps all codec
Edge Storage	Micro SD/SDHC/SDXC None SSD 1TB included(WAVE pre-installed), Possible to register up to 6 camera(Host+5 camera)	Micro SD /SDHC/SDXC None SSD 2TB included(WAVE pre-installed), Possible to register up to 6 camera(Host+5 camera)	
Application Programming Interface	ONVIF Profile S/T/M, SUNAPI(HTTP API)		SUNAPI(HTTP API) Wisenet Open Platform ONVIF Profile M
Operating Temperature / Humidity	Temperature -30˝C~+55˝C(-22˝F~+131˝F) Humidity 0~95% RH(non-condensing) Others Start up should be done at above -20˝ C, Humidity control with AIR vent		-40˝C~+55˝C(-40˝F~+131˝F) / 0~95% RH * Start up should be done at above -30˝C NEMA TS-2: 74˝ C - / 0~95% RH
Certification	IP66, IP67, IP6K9K, IK10, NEMA 250 type 4X		IP67, IP66, IK10(Exclude Window), NAME 4X
Power Consumption	PoE+: Max 19.2W, typical 14.4W / 12VDC: Max 17.5W, typical 12.7W		Max 28.6W, Typical 13.7W * Max: LED On Typical: LED Off
Product Dimensions / Weight	ø 180x130mm(ø 7.09x5.12˝), 1,900g(4.19 lb)		Camera: 218x104.1x127.1mm, 1,897g LED: 255.8x73.8x49.8mm, 996g Total: 255.8x181x127.1mm, 3,438g(with install bracket)

	XNO-9082R 8MP IR Bullet Camera	XND-9082RV 8MP IR Dome Camera	XND-9082RF 8MP IR Dome Camera	XNO-9082R 8MP IR Bullet Camera
Imaging Device	1/2.8˝ CMOS			
Resolution / Max. Frame Rate	8MP / 30fps			
Min. Illumination	Color(1/30sec, 30IRE) 0.05 BW(1/30sec, 30IRE) 0.005			
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.			
Focal Length (Zoom Ratio)	2.8~8.4mm(3x) varifocal			
Angular Field of View	H: 114˝(Wide) ~40˝(Tele) V: 62˝(Wide) ~22˝(Tele) D: 133˝(Wide) ~ 46˝(Tele)			
Pan / Tilt / Rotate Range	0˝~360˝/ 0˝~100˝ / 0˝~360˝	0˝~ 360˝ / 0˝~ 85˝ / 0˝~355˝		0˝~360˝/ 0˝~100˝ / 0˝~360˝
IR Viewable Length	WiseIR 40m(131.23ft)			
Day & Night	Auto(ICR)			
Wide Dynamic Range	extremeWDR(120dB)			
Digital Noise Reduction	SSNR Ⅴ			
Digital Image Stabilization	Support	Support(built-in gyro sensor)		
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face/upper body detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking			
Business Intelligence	People counting, Queue management, Heatmap			
Alarm I/O	2 configurable I/O ports			
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
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
WiseStream	WiseStreamⅡ			
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles			
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)			
Application Programming Interface	ONVIF SUNAPI(HTTP API), Hanwha Vision Open Platform			
Operating Temperature / Humidity	-50˝C ~ +60˝C(-58˝F ~+140˝F) 0~95% RH(non-condensing) * Start up should be done at above -30˝C	-25˝C~+60˝C(-13˝F~+140˝F) 0~95% RH(non-condensing)		-50˝C~+60˝C(-58˝F~+140˝F) 0~95% RH(non-condensing) * Start up should be done at above -30˝C
Certification	IP66, IP67, NEMA4X, IK10	IP52, IK10	IP52, IK10	IP66, IP67, IK10, NEMA 250 type 4X
Power Consumption	PoE: Max 12.95W, typical 10.5W 12VDC: Max 12.5W, typical 9.4W 24VAC: Max 14.5W, typical 11.2W Power redundancy failover	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W		PoE: Max 12.95W, typical 10.5W 12VDC: Max 12.5W, typical 9.4W 24VAC: Max 14.5W, typical 11.2W
Product Dimensions / Weight	ø 91x368.6mm(ø 3.85x14.51˝), 2,200g(4.85 lb)	ø 160x125mm(ø 6.30x4.92˝), 1,600g(3.53 lb)	ø 205x163mm(ø 8.07x6.42˝), 1,950g(4.29 lb)	ø 91x368.6mm(ø 3.85x14.51˝), 2,200g(4.85 lb)

Left page

	XND-8082RV 6MP IR Dome Camera	XND-8082RF 6MP IR Dome Camera	XNO-8082R 6MP IR Bullet Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	6MP / 30fps		
Min. Illumination	Color(1/30sec, 30IRE) 0.05 BW(1/30sec, 30IRE) 0.005		
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	2.8~8.4mm(3x)		
Angular Field of View	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)		
Pan / Tilt / Rotate Range	0°~360° / 0°~85° / 0°~355°		0°~360° / 0°~100° / 0°~360°
IR Viewable Length	WiseIR 40m(131.23ft)		
Day & Night	Auto(ICR)		
Wide Dynamic Range	extremeWDR(120dB)		
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	Support		
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face/upper body detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking		
Business Intelligence	People 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		Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	WiseStream II		
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles		
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)		
Application Programming Interface	ONVIF S/G/T SUNAPI(HTTP API), Hanwha Vision Open Platform		
Operating Temperature / Humidity	-25°C~+60°C(-13°F~+140°F) / 0~95% RH(non-condensing)		-50°C~+60°C(-58°F~+140°F) 0~95% RH(non-condensing) * Start up should be done at above -30°C
Certification	IP52, IK10	IP52, Plenum rated, IK10	IP66, IP67, IK10, NEMA 250 type 4X
Power Consumption	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W		PoE: Max 12.95W, typical 10.5W 12VDC: Max 12.5W, typical 9.4W 24VAC: Max 14.5W, typical 11.2W
Product Dimensions / Weight	ø160x125mm(ø 6.30x4.92"), 1,600g(3.53 lb)	ø 205x163mm(ø 8.07x6.42"), 1,950g(4.29 lb)	ø 91x368.6mm(ø 3.85x14.51"), 2,200g(4.85 lb)

Right page

	XNV-8080R 5MP IR Vandal Dome Camera	XNV-8080RSA 5MP Stainless IR Vandal Dome Camera	XNV-8020R/8030R/8040R 5MP Vandal Dome Camera	XND-8080RV/8080R 5MP IR Dome Camera	XND-8020R/8030R/8040R 5MP IR Dome Camera
Imaging Device	1/1.8" CMOS				
Resolution / Max. Frame Rate	5MP / 30fps				
Min. Illumination	Color(1/30sec, 30IRE) 0.07 BW(1/30sec, 30IRE) 0.007		Color(1/30sec, 30IRE) 0.16 BW(1/30sec, 30IRE) 0.016	Color(1/30sec, 30IRE) 0.07 BW(1/30sec, 30IRE) 0.007	Color(1/30sec, 30IRE) 0.16 BW(1/30sec, 30IRE) 0.016
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				
Focal Length (Zoom Ratio)	3.9 ~ 9.4mm (2.4x)		3.7mm (XNV-8020R) 4.6mm (XNV-8030R) 7.0mm (XNV-8040R)	3.9 ~ 9.4m (2.4x)	3.7mm (XND-8020R) 4.6mm (XND-8030R) 7.0mm (XND-8040R)
Angular Field of View	H: 92.1°(Wide) ~ 38.7°(Tele) V: 67.2°(Wide) ~ 29°(Tele) D: 119.9°(Wide) ~ 48.6°(Tele)		H: 98°/ V: 72°/ D: 127° (XNV-8020R) H: 77.9°/ V: 57.9°/ D: 98.7° (XNV-8030R) H: 50.7°/ V: 37.8°/ D: 63.8° (XNV-8040R)	H: 92.1°(Wide) ~ 38.7°(Tele) V: 67.2°(Wide) ~ 29°(Tele) D: 119.9°(Wide) ~ 48.6°(Tele)	H: 98°/ V: 72°/ D: 126° (XND-8020R) H: 77.9°/ V: 57.9°/ D: 98.7° (XND-8030R) H: 50.7°/ V: 37.8°/ D: 63.8° (XND-8040R)
Pan / Tilt / Rotate Range	0° ~ 354°/ 0° ~ 67°/ 0° ~ 355°				
IR Viewable Length	50m (164.04ft)		30m(98.42ft)	30m (98.43ft)	
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support				
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking				
Business Intelligence	–		People counting, Queue management, Heatmap	–	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) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG				
WiseStream	WiseStream II				
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles				
Edge Storage	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)				
Application Programming Interface	ONVIF S/G/T SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-40°C~+55°C(-40°F ~+131°F) / 0~90% RH(non-condensing)		-30°C~+55°C(-22°F~+131°F) / 0~90% RH(non-condensing) Others Start up should be done at above -20°C	-10°C~+55°C(+14°F~+131°F) / 0~90% RH(non-condensing)	
Certification	IP66, IP67, IK10, NEMA 250 type 4X	IP66, IP6K9K, IK10+, NEMA 250 type 4X	IEC 60529 IP66, IEC 60529 IP67, IEC 62262 IK10	IEC 62262 IK08	
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W		PoE : Max 9W 12VDC: Max 8W	PoE : Max 10W 12VDC : Max 9W	PoE : Max 9W 12VDC : Max 8W
Product Dimensions / Weight	ø 160 x 118.5mm (ø 6.3" x 4.67") 1,010g (2.23lb)	ø 162 X 120.5mm (ø 6.38" x 4.74") 2,800g (6.17lb)	ø 120 x 97.5mm (ø 4.72" x 3.84") 615g (1.36lb)	ø 140.8 x 113mm (ø 5.54" x 4.45") 628g (1.38lb)	ø 110 x 90mm (ø 4.33" x 3.54") 380g (0.84lb)

NETWORK

	XND-8020F 5MP Flush Mount Dome Camera	XNO-8080R 5MP IR Bullet Camera	XNO-8020R/8030R/8040R 5MP IR Bullet Camera	XNF-9010RV/9010RVM 12MP IR Fisheye Camera
Imaging Device	1/1.8″ CMOS	1/1.8″ CMOS	1/2.3″ CMOS	1/2.3″ CMOS
Resolution / Max. Frame Rate	5MP / 30fps	5MP / 30fps	5MP / 30fps	12MP / 30fps
Min. Illumination	Color: 0.16Lux (1/30sec, 30IRE) BW: 0.16Lux (1/30sec, 30IRE)	Color: 0.07Lux (1/30sec, 30IRE) BW: 0.007Lux (1/30sec, 30IRE)	Color: 0.16Lux (1/30sec, 30IRE) BW: 0.016Lux (1/30sec, 30IRE)	Color: 0.39Lux (1/30sec, 30IRE) BW: 0.039Lux (1/30sec, 30IRE)
Video Out	Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	3.7mm	3.7~9.4mm (2.5x) motorized varifocal	3.7mm fixed (XNO-8020R) 4.6mm fixed (XNO-8030R) 7.0mm fixed (XNO-8040R)	1.08mm
Angular Field of View	H: 97.5° / V: 71.9° / D: 126.2°	H: 100.2°(Wide) ~ 38.7°(Tele) V: 72.2°(Wide) ~ 29°(Tele) D: 132.0°(Wide) ~ 48.6°(Tele)	H: 97.5° / V: 71.9° / D: 126.2° (XNO-8020R) H: 77.9° / V: 57.9° / D: 98.7° (XNO-8030R) H: 50.7° / V: 37.8° / D: 63.8° (XNO-8040R)	H: 187° / V: 187° / D: 187°
Pan / Tilt / Rotate Range	0° ~ 355° / 0° ~ 47° / 0° ~ 353°			–
IR Viewable Length	–	50m (164.04ft)	30m (98.43ft)	WiseIR 10m(32.8ft)
Day & Night	Auto (ICR)	Auto (ICR)		
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support			–
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking		
Business Intelligence	People counting, Queue management, Heatmap	–	People counting, Queue management, Heatmap	
Alarm I/O	–	1 / 1		2 configurable I/O ports
Audio I/O	Built-in mic / –	Selectable (mic in/line in) / Line out		Selectable (mic in/line in), Built-in mic / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	WiseStream II			
Streaming	Unicast up to 20 users / Multicast Support / Multiple Streaming up to 10 profiles			
Edge Storage	Micro SD/SDHC/SDXC Max. 256GB x 1slot	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)		
Application Programming Interface	ONVIF S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform	ONVIF Profile S/G/T, SUNAPI Hanwha Vision Open Platform	ONVIF Profile S/G/T SUNAPI Hanwha Vision Open Platform	ONVIF Profile S/G/T SUNAPI(HTTP API) Hanwha Vision Open Platform
Operating Temperature / Humidity	-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)	-40°C~+55°C(-40°F~+131°F) 0~90% RH(non-condensing)	-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing) Start up should be done at above -20°C	-40°C~+60°C(-40°F~+140°F) 0~95% RH(non-condensing)
Certification	–	IP67, IP66, NEMA 250 type 4X, IK10		IP66, IK10, NEMA 250 type 4X, EN50155 class T3 (XNF-9010RVM only)
Power Consumption	PoE : Max 4.7W	PoE : Max 12.95W 12VDC : Max 12.5W 24VAC : Max 14.5W	PoE : Max 10.3W 12VDC : Max 9.3W	PoE : Max 12.95W, typical 11W 12VDC : Max 11W, typical 9.1W
Product Dimensions / Weight	φ 98.9x129.1mm(3.9″x5.1″) 275g(0.6 lb)	φ 91 x 368.6mm (φ 6.3″ x 4.67″) 2,180g (4.81lb)	φ 70 x 296mm (φ 2.76″ x 11.65″) 1,220g (2.69lb)	φ 160 x 72mm (φ 6.38″ x 2.83″) 1,100g (2.43lb)

NETWORK

	XNF-9010RS 12MP IR Fisheye Camera	XNF-8010R/8010RV/8010RVM 6MP IR Fisheye Camera	XNV-6080R 2MP IR Vandal Dome Camera
Imaging Device	1/2.3″ CMOS	1/1.8″ CMOS	1/2.3″ CMOS
Resolution / Max. Frame Rate	12MP/ 30fps	6MP / 30fps	2MP / 60fps
Min. Illumination	Color: 0.39Lux (1/30sec, 30IRE) BW: 0.039Lux (1/30sec, 30IRE)	Color: 0.1Lux (1/30sec, 30IRE) BW: 0.01 Lux (1/30sec, 30IRE)	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	1.08mm	1.6mm	2.8 ~ 12mm (4.3x) motorized varifocal
Angular Field of View	H: 187° / V: 187° / D: 187°	H: 192° / V: 192° / D: 192°	H: 119.5° (Wide) ~ 27.9° (Tele) V: 62.8° (Wide) ~ 15.7° (Tele) D: 142.1° (Wide) ~ 32° (Tele)
Pan / Tilt / Rotate Range	–	–	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	WiseIR 8m(26.25ft)	15m (49.21ft)	50m (164.04ft)
Day & Night	Auto (ICR)		
Wide Dynamic Range	120dB		150dB
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	–		Support
Analytics	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking
Business Intelligence	People counting, Queue management, Heatmap		–
Alarm I/O	2 configured I/O	1 / 1	
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
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	WiseStream II		
Streaming	Unicast up to 20 users / Multicast support / Multiple Streaming up to 10 profiles		
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)		
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform	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~+50°C(-40°F~+122°F) 0~95% RH(non-condensing)	-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing) (XNF-8010R) -40°C~+55°C(-40°F~+131°F) 0~90% RH(non-condensing) (XNF-8010RV/8010RVM)	-40°C~+55°C(-40°F~+131°F) 0~90% RH(non-condensing)
Certification	IP66, IP67, IP6K9K, IK10+, NEMA 250 type 4X	IP66, IK10 (XNF-8010RV/8010RVM)	IP67, IP66, NEMA 250 type 4X, IK10
Power Consumption	PoE : Max 12.95W, typical 11W 12VDC : Max 11W, typical 9.1W	PoE : Max 12W, 12VDC : Max 11W (XNF-8010R) PoE : Max 12.95W, 12VDC : Max 12W (XNF-8010RV/8010RVM)	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W
Product Dimensions / Weight	φ 167.9 x 72.1mm (φ 66.1″ x 28.38″) 2,980g (6.57lb)	φ 146 x 54.8mm (φ 5.75″ x 2.16″) 730g (1.61lb) (XNF-8010R) φ 146 x 65.8mm (φ 5.75″ x 2.59″) 785g (1.73lb) (XNF-8010RV) 790g (1.74lb) (XNF-8010RVM)	φ 160 x 118.5mm (φ 6.3″ x 4.67″) 995g (2.19lb)

VIDEO RECORDERS | CLOUD | PERIPHERALS | ACCESS CONTROL | IP AUDIO | ANALOG

	XNV-6080RSA 2MP Stainless IR Vandal Dome Camera	XNV-6080 2MP Vandal Dome Camera	XNV-6022R/6022RM 2MP Mobile IR Flat Camera	XNV-6020R 2MP IR Vandal Dome Camera	XNV-6013M 2MP Mobile Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 60fps				
Min. Illumination	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)	Color: 0.04Lux (1/30sec, 30IRE) BW: 0.004Lux (1/30sec, 30IRE)	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)	Color: 0.04Lux (1/30sec, 30IRE) BW: 0.04Lux (1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.
Focal Length (Zoom Ratio)	2.8~12mm (4.3x) motorized varifocal		3.6mm	4mm	2.8mm
Angular Field of View	H: 120° (Wide) ~ 27° (Tele) V: 63° (Wide) ~ 15° (Tele) D: 143° (Wide) ~ 32° (Tele)	H: 119.5° (Wide) ~ 27.9° (Tele) V: 62.8° (Wide) ~ 15.7° (Tele) D: 142.1° (Wide) ~ 32.0° (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°
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°		±5° / 0° ~ 67° / ±90°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	±5° / ±10° / ±90°
IR Viewable Length	50m (164.04ft)	–	15m (49.21ft)	30m (98.43ft)	–
Day & Night	Auto (ICR)				Auto (Electrical)
Wide Dynamic Range	150dB				
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support				Support(built-in gyro sensor)
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual line(Crossing, Direction), Digital auto tracking		Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking
Business Intelligence	–		–	People counting, Queue management, Heatmap	–
Alarm I/O	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) / Line out	
Video Compression	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)		Micro SD/SDHC/SDXC Max. 256GB x 1slot	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)	
WiseStream	WiseStream II				
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles				
Edge Storage	micro SD/SDHC/SDXC				
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) 0~90% RH(non-condensing)		-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing)		-40°C~+60°C(-40°F~+140°F) 0~90% RH(non-condensing)
Certification	IP66, NEMA 250 type 4X, IP6K9K, IK10+	IP67, IP66, NEMA 250 type 4X, IK10	IP66, IK10, NEMA 250 type 4X	IP67, IP66, IK10	IP67, IP6K9K, IK10, NEMA 250 type 4X
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W	PoE : Max 7.8W 12VDC : Max 7W 24VAC : Max 8.2W	PoE : Max 6.7W	PoE : Max 9W 12V DC : Max 8W	PoE : Max 7.2W
Product Dimensions / Weight	ø 160 x 120.5mm (ø 6.38" x 4.74") 2.8kg (6.17lb)	ø 160 x 118.5mm (ø 6.3" x 4.67") 985g (2.17lb)	W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)	ø 120 x 97.5mm (ø 4.72" x 3.84") 615g (1.36lb)	W 103.7 x H 72.3 x D 126.8mm (4.08" x 2.85" x 4.99") 478g (1.04lb)

VIDEO RECORDERS | CLOUD | PERIPHERALS | ACCESS CONTROL | IP AUDIO | ANALOG

	XNV-6012M/6012 2MP Mobile Flat Camera	XNV-6011 2MP Vandal Dome Camera	XNV-6010 2MP Vandal Dome Camera	XND-6080V/6080 2MP Dome Camera
Imaging Device	1/2.8" CMOS			
Resolution / Max. Frame Rate	2MP / 60fps			
Min. Illumination	Color: 0.04Lux (1/30sec, 30IRE) BW: 0.004Lux (1/30sec, 30IRE)	Color: 0.055Lux (1/30sec, 30IRE) BW: 0.055Lux (1/30sec, 30IRE)	Color: 0.055Lux (1/30sec, 30IRE) BW: 0.0055Lux (1/30sec, 30IRE)	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.015Lux (1/30sec, 30IRE)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	2.4mm	2.8mm	2.4mm	2.8~12mm (4.3x)
Angular Field of View	H: 135.4° / V: 71.2° / D: 161.6°	H: 112° / V: 62° / D: 130°	H: 139° / V: 73° / D: 167°	H: 119.5° (Wide) ~ 27.9° (Tele) V: 62.8° (Wide) ~ 15.7° (Tele) D: 142.1° (Wide) ~ 32° (Tele)
Pan / Tilt / Rotate Range	±5° / 0~67° / ±90°	0° ~ 353° / 0° ~ 59° / 0° ~ 353°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	
IR Viewable Length	–			
Day & Night	Auto (Electrical)		Auto (ICR)	
Wide Dynamic Range	150dB			
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support			
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking		Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction), Digital auto tracking
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) / Line out	Selectable (mic in/line in), Built-in mic / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	WiseStream II			
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles			
Edge Storage	Micro SD/SDHC/SDXC Max. 256GB x 1slot		Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)
Application Programming Interface	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing)			-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)
Certification	IP66, IK10, NEMA 250 type 4X			IP67, IP66, IK10 / IK08
Power Consumption	PoE : Max 6.5W	PoE : Max 6.5W	PoE : Max 6W / 12V DC : Max 5.5W	PoE : Max 6.5W / 12VDC : Max 6W
Product Dimensions / Weight	W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)	ø 112.8 x 63.7mm (ø 4.44" x 2.51") 420g (0.93lb)	ø 120 x 97.5mm (ø 4.72" x 3.84") 625g (1.38lb)	ø 140.8 x 113mm (ø 5.54" x 4.45") 610g (1.34lb) (XND-6080) 714g (1.57lb) (XND-6080V)

NETWORK

	XND-6080RV/6080R 2MP IR Dome Camera		XND-6020R 2MP IR Dome Camera	XND-6011F 2MP Flush Mount Dome Camera	XND-6010 2MP Dome Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 60fps				
Min. Illumination	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)			Color: 0.55Lux (1/30sec, 30IRE) BW: 0.55Lux (1/30sec, 30IRE)	Color: 0.055Lux (1/30sec, 30IRE) BW: 0.0055Lux (1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.			USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.
Focal Length (Zoom Ratio)	2.8~12mm (4.3x)	4mm		2.8mm	2.4mm
Angular Field of View	H: 119.5° (Wide)~27.9° (Tele) V: 62.8° (Wide)~15.7° (Tele) D: 142.1° (Wide)~32° (Tele)	H: 88.6° / V: 47.5° / D: 104.8°		H: 107.4° / V: 62.2° / D: 122°	H: 139° / V: 73° / D: 167°
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°			0° ~ 355° / 0° ~ 47° / 0° ~ 353°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	30m (98.43ft)			–	–
Day & Night	Auto (ICR)			Auto(ICR)	Auto (ICR)
Wide Dynamic Range	150dB			–	150dB
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support				
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking		Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking	
Business Intelligence	–			People counting, Queue management, Heatmap	
Alarm I/O	1 / 1			–	1 / 1
Audio I/O	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out		Built-in mic / –	Selectable (mic in/line in), Built-in mic / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG				
WiseStream	WiseStream II				
Streaming	Unicast Up to 20 users / Multicast Support / Multiple Streaming Up to 10 profiles				
Edge Storage	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)		Micro SD/SDHC/SDXC Max. 256GB x 1slot	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform		ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-10°C~+60°C(+14°F~+140°F)(Max) 0~95% RH(non-condensing)	-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)		-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)	
Certification	IK08			–	IK08
Power Consumption	PoE : Max 10W 12VDC : Max 9W	PoE : Max 9W 12VDC : Max 8W		PoE : Max 4.7W	PoE : Max 6.5W 12VDC : Max 6W
Product Dimensions / Weight	ø 140.8 x 113mm (ø 5.54" x 4.45") 624g (1.38lb) (XND-6080R) 724g (1.60lb) (XND-6080RV)	ø 110 x 90mm (ø 4.33" x 3.54") 380g (0.84lb)		ø 98.9 x 129mm (ø 3.89" x 5.08") 275g (0.61lb)	ø 110.0x90.0mm(4.33x3.54") 625g (1.38lb)

	XNO-6080R 2MP IR Bullet Camera	XNO-6010R/6020R 2MP IR Bullet Camera	XNB-6000 2MP Box Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	2MP / 60fps		
Min. Illumination	Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)	Color: 0.055Lux (1/30sec, 30IRE) BW: 0.0055Lux (1/30sec, 30IRE) Color: 0.015Lux (1/30sec, 30IRE) BW: 0.0015Lux (1/30sec, 30IRE)	Color: 0.01Lux (1/30sec, 30IRE) BW: 0.001Lux (1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.		
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal	2.4mm (XNO-6010R) 4mm (XNO-6020R)	–
Angular Field of View	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide)) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 139° V : 73° / D : 167° (XNO-6010R) H : 88.6°/ V : 47.5° / D : 104.8° (XNO-6020R)	–
Pan / Tilt / Rotate Range	–	0°~354° / 0°~67° / 0°~355°	
IR Viewable Length	50m (164.04ft)	20m (65.62ft) (XNO-6010R) 30m (98.43ft) (XNO-6020R)	–
Day & Night	Auto (ICR)		
Wide Dynamic Range	150dB		
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	Support		Support(built-in gyro sensor)
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking		
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
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	WiseStream II		
Streaming	Unicast Up to 20 users Multicast Support Multiple Streaming Up to 10 profiles		
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision open platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision open platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-40℃~+55℃(-40°F~+131°F) 0~90% RH(non-condensing)	-10℃~+55℃(+14°F~+131°F) 0~90% RH(non-condensing)	-10℃~+55℃(+14°F~+131°F) 0~90% RH(non-condensing)
Certification	IP67, IP66, NEMA 250 type 4X, IK10		–
Power Consumption	PoE : Max 12.95W 12VDC : Max 12W 24VAC : Max 15W	PoE : Max 9.7W 12VDC : Max 8.8W	PoE : Max 7.5W 12VDC : Max 6.5W 24VAC : Max 8W
Product Dimensions / Weight	ø 91 x 368.6.mm (ø 3.58" x 14.51") 2,180g (4.81lb)	ø 70 x 301.5mm (ø 2.76" x 11.87") (XNO-6010R) ø 70 x 296mm (ø 2.76" x 11.65") (XNO-6020R) 1,220g (2.69lb)	73.1(W)x66.6(H)x147.8(D)mm(2.88x2.62x5.82") 420g(0.93lb)

NETWORK

	XNB-6002 2x 2MP Remote Head Camera	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			
Resolution / Max. Frame Rate	2MP / 60fps		–	–	–
Min. Illumination	–	–	Color: 0.06Lux (1/30sec, 30IRE) BW: 0.06Lux (1/30sec, 30IRE)	Color: 0.45Lux (F2.0) B/W: 0.45Lux (F2.0)	Color : 0.03Lux (F1.6)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				–
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 : 165°	H : 187° / V : 113.9°
Pan / Tilt / Rotate Range	–				
IR Viewable Length	–				–
Day & Night	–				–
Wide Dynamic Range	120dB				–
Digital Noise Reduction	WiseNR, SSNR V	SSNR V			–
Digital Image Stabilization	Support				–
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Digital auto tracking			–
Business Intelligence	People counting, Queue management, Heatmap	–			–
Alarm I/O	1 / 1				–
Audio I/O	Selectable(mic in/line in) / Line out				–
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG			–
WiseStream	WiseStream II	WiseStream II			–
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)	Unicast Up to 20 users Multicast Support Multiple Streaming Up to 10 profiles			–
Edge Storage	Micro SD/SDHC/SDXC Max. 1TB x 1slot	Micro SD/SDHC/SDXC Max. 1TB x 1slot			–
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform			–
Operating Temperature / Humidity	-10℃~+55°C(+14°F~+131°F) 0~95% RH(non-condensing)	-10℃~+55℃(+14°F~+131°F) 0~95% RH(non-condensing)	-10℃ ~ +55℃(+14°F ~ +131°F) Less than 90% RH		
Certification	–				
Power Consumption	PoE: Max 10.5W, typical 6.9W 12VDC: Max 8.6W, typical 5.5W Power redundancy failover	PoE: Max 10.5W, typical 6.9W 12VDC: Max 8.6W, typical 5.5W			–
Product Dimensions / Weight	131.1(W)x33.5(H)x86(D)mm (5.16x1.32x3.39") 420g(0.93lb)	131.1(W)x33.5(H)x86(D)mm(5.16x1.32x3.39") 420g(0.93lb)	ø 24 x 42mm (ø 0.94" x 1.65") (Lens) 8m (314.96") (Cable) 310g (0.68lb) (SLA-T4680) 30 x 20.2 x 45mm (1.18" x 0.8" x 1.77") (Lens) 8m (314.96") (Cable) 321g (0.71lb) (SLA-T4680V)	ø 24 x 49.8mm (ø 0.94" x 1.96") (Lens) 8m (314.96") (Cable) 318g (0.70lb) (SLA-T2480) 30 x 27.9 x 45mm (1.18" x 0.1" x 1.77") (Lens) 8m (314.96") (Cable)328g (0.72lb) (SLA-T2480V)	ø 35 x 68.9mm (ø 1.38" x 2.71") (Lens) 8m (314.96") (Cable) 321g (0.71lb)

NETWORK

	XNZ-6320A 2MP 32x Zoom Camera	XNZ-L6320A 2MP 32x Zoom Camera	XNP-6550RH 2MP 55x IR PTZ Camera	XNP-6371RH 2MP 37x IR PTZ Camera	XNP-6120H 2MP 12x PTZ Camera	XNP-6040H 2MP 4.3x PTZ Camera
Imaging Device	1/2.8" CMOS			1/2" 2MP CMOS	1/2.8" CMOS	
Resolution / Max. Frame Rate	2MP/ 60fps					
Min. Illumination	Color: 0.05Lux (1/30sec, 30IRE) B/W: 0.005Lux (1/30sec, 30IRE)		BW : 0.002Lux(F1.6, IR LED off), 0Lux(IR LED on)	BW : 0.001Lux(F1.6, IR LED off), 0Lux(IR LED on)	Color: 0.03 Lux (1/30sec, 30IRE) B/W: 0.003 Lux (1/30sec, 30IRE)	Color: 0.015Lux(30IRE) BW: 0.0015Lux(30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	CVBS: 1.0 Vp-p / 75Ω composite for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	
Focal Length (Zoom Ratio)	4.44 ~ 142.6mm (Optical 32X) (digital 32x)		4.75~261.4mm(55x) zoom	6~222mm(37x) zoom	5.2~62.4mm(12x) zoom (digital 32x)	2.8~12mm(4.3x) zoom (digital 32x)
Angular Field of View	H: 64.66° (Wide) ~ 2.29° (Tele) / V: 38.08° (Wide) ~1.30° (Tele)	H: 64.66° (Wide) ~2.29° (Tele) / V: 38.08° (Wide) ~1.30° (Tele)	H: 58.6° (Wide) ~1.23° (Tele) / V: 34.8° (Wide) ~ 0.71° (Tele)	H: 59.3°(Wide) ~1.90°(Tele) / V: 35.8°(Wide) ~1.1°(Tele)	H: 54.58°(Wide) ~ 5.30°(Tele) / V: 32.19°(Wide) ~ 3.00°(Tele)	H: 119.5°(Wide) ~27.9°(Tele) / V: 62.8°(Wide) ~15.7°(Tele) / D: 142.1°(Wide) ~ 32.0°(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)	350m(1,148.29ft)	–	
Day & Night	Auto(ICR)					
Wide Dynamic Range	120dB			150dB		
Digital Noise Reduction	SSNR V					
Digital Image Stabilization	Support					
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)		Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	
Business Intelligence	–					
Alarm I/O	1 / 2		4/2		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: Main/Baseline/High, MJPEG					
WiseStream	Manual, WiseStream II					
Streaming	Up to 10 profiles					
Edge Storage	Max. 512GB x 2slot(Total 1TB)	Max. 256GB x 1slot	Max. 256GB x 2slot(Total 512GB)	Max. 256GB x 1slot	Max. 256GB x 2slot(Total 512GB)	Max. 256GB x 2slot(Total 512GB)
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Hanwha Vision Open Platform					
Operating Temperature / Humidity	-10° C ~ +55° C(-14° F ~ +131° F) / 0~90%RH(Non-condensing)	-10° C ~+55° C(-14° F ~ +131° F) / 0~90%RH(Non-condensing)	AC24: -50°C~+55°C(-58°F~+131°F) / HPoE: -40°C~+55°C(-22°F~+131°F)	-50°C~ +55 C°(-58°F~ +131°F)	-30°C~+55°C (-22°F~+131°F) / 0~90%RH(Non-condensing)	
Certification	–		IEC 60529 IP66, IEC 62262 IK10			
Power Consumption	PoE: Max 7.5W, Typical 4.5W 12VDC: Max 7.0W, Typical 4.0W	PoE: Max 7.5W, Typ 5.0W 12VDC: Max 5.7W, Typ 3.7W	24VAC: Max. 92W (typical : 30W) HPoE : Max. 60W (typical : 30W)	24VAC: Max 90W	DC12V : Max 12W PoE : Max 12W	DC12V: Max. 8.6W PoE : Max. 9.6W
Product Dimensions / Weight	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)	ø 236.9x407.7mm(9.33x16.05"), 7,100g(15.65 lb)	ø 236.9x407.7mm(9.33x16.05"), 7,100g(15.65 lb)	ø 168x161.5mm(6.61x6.36"), 1,900g(4.19 lb)	ø 136x106mm(5.35x4.17"), 780g(1.72 lb)

	PNM-9031RV 15MP IR Panoramic Camera	PNM-9085RQZ1 5MP x 4CH IR PTRZ Multi-directional Camera	PNM-9084RQZ1 2MP x 4CH PTRZ Multi-directional Camera	PNM-9084QZ1 2MP x 4CH PTRZ Multi-directional Camera
Imaging Device	1/2.8" CMOS (x4)	1/1.8" CMOS x 4CH	1/2.8" CMOS x 4CH	1/2.8" CMOS x 4CH
Resolution / Max. Frame Rate	15MP / 20fps	8MP / 30fps	8MP / 60fps	8MP / 60fps
Min. Illumination	Color: 0.1Lux(1/30sec, 30IRE) BW: 0.01 Lux (1/30sec, 30IRE)	Color: 0.11lux(1/30sec, 30 IRE) BW 0.011 Lux (1/30sec, 30IRE)	Color: 0.05lux(1/30sec, 30IRE) BW: 0.005Lux(1/30sec, 30IRE)	Color: 0.04lux(1/30sec, 30IRE) BW: 0.004Lux(1/30sec, 30IRE)
Video Out	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle	–	–	–
Focal Length (Zoom Ratio)	4.3mm	4.13~9.4mm(2.3x)	3.2~10mm(3.1x)	3~6mm(2x)
Angular Field of View	H: 195.3°~197.0° V: 63.6°	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) V: 57.4° (Wide) ~ 18.7° (Tele) D: 132.0° (Wide) ~ 38.0° (Tele)	H: 107 ° (Wide) ~ 56.3 ° (Tele) V: 57 °(Wide) ~ 31.5 ° (Tele) D: 126 ° (Wide) ~ 64.3 ° (Tele)
Pan / Tilt / Rotate Range	0~360° / 0~60° / –	Remote adjustment (Max. 200cycles) 0~360° / 35~38° / 0~90°		Remote adjustment (Max. 200cycles) 0~360° / 0~73° / 0~90°
IR Viewable Length	WiseIR 20m(65.62ft) 4 individual zones with Automatic and Manual level adjustment	30m(98.43ft)		–
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	–	Support		
Analytics	Defocus detection, Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual area(Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)		
Business Intelligence	Heatmap	–		
Alarm I/O	2 / 1	1 / 1		
Audio I/O	Selectable (mic in/line in)			
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			
WiseStream	Manual, WiseStream II			
Streaming	Unicast up to 15 users, Multicast support, up to 5 profiles	Unicast up to 20 users, Multicast support, up to 10 profiles		
Edge Storage	Max. 256GB x 2slot(Total 512GB)	Max. 256GB x 4slot(Total 1TB)		
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API)	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform		
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) * Startup should be above -30°C Less than 95% RH(Non-condensing)	-40°C~+55°C(-40°F~+131°F) / 0~90%RH(Non-condensing)		-40°C~+55°C(-40°F~+131°F) 0~90%RH(Non-condensing) *Start up should be above at -35°C
Certification	IP66, IK10, NEMA 250 type 4X			
Power Consumption	PoE+: Max 23.5W, Typical 18.0W 12VDC: Max 20.5W, Typical 16.0W	PoE: Max. 45 W, Typical 33.7 W 12VDC: Max. 42 W, Typical 32 W	PoE: Max. 42 W, Typical 30 W 12VDC: Max. 38 W, Typical 28.2 W	Max. 33W, Typical 20W
Product Dimensions / Weight	⌀253x170mm(9.96x6.69") / 2,900g(6.39lb)	⌀315x145.9 mm(12.40"x5.74") / 5,200g(11.5lb)		⌀251x116.5mm(9.88x4.59") / 3,000g(6.61lb)

	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 3CH	1/2.8" CMOS x 2CH	
Resolution / Max. Frame Rate	2MP / 30fps	6MP / 15fps	2MP / 30fps
Min. Illumination	Color: 0.04lux(F2.2) BW: 0.004lux(F2.2)	Color: 0.16Lux(1/30sec, 30IRE) BW: 0.016 Lux(1/30sec, 30IRE)	Color: 0.035Lux(1/30sec, 30IRE) BW: 0.0035Lux(1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle	USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.
Focal Length (Zoom Ratio)	3~6mm(2x)	3.54~6.69mm(1.9x)	3~6mm(2x)
Angular Field of View	H: 107° (Wide)~56.3° (Tele) V: 57° (Wide)~31.5° (Tele) D: 126° (Wide)~64.3° (Tele)	H: 96° (Wide)~47°(Tele) V: 51° (Wide)~26°(Tele) D: 113° (Wide)~54°(Tele)	H: 107° (Wide)~56°(Tele) V: 57° (Wide)~31°(Tele) D: 126° (Wide)~64°(Tele)
Pan / Tilt / Rotate Range	0~360° / 0~73°/ 0 ~ 90°	0~355° / 0~78° /0~180°	0~355° / 0~78° / 0~180°
IR Viewable Length	–	15m(49ft), 25m(82ft) based on scene	
Day & Night	Auto(ICR)		
Wide Dynamic Range	120dB		
Digital Noise Reduction	WiseNR, SSNR V		
Digital Image Stabilization	Support	–	–
Analytics	Defocus detection, Motion detection, Tampering, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	
Business Intelligence	–		
Alarm I/O			
Audio I/O	–		
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	Manual, WiseStream II		
Streaming	Unicast upto 20 users, Multicast support, up to 10 profiles		
Edge Storage	Micro SD/SDHC/SDXC Max. 256GB x 2slot(Total 512GB)	Micro SD/SDHC/SDXC 1slot Max. 512GB	Micro SD/SDHC/SDXC Max. 512GB x 1slot
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API)	ONVIF Profile S/T, SUNAPI(HTTP API), Open platform	
Operating Temperature / Humidity	-40°C~+55°C (-40°F~+131°F) / 0~95% RH(non-condensing) *Start up should be above at -35°C		
Certification	IP66, IK10, NEMA 250 type 4X	IP66, IP67,IK10, NEMA 250 type 4X	
Power Consumption	PoE+: Max : 16.5W, Typical : 8.2W	PoE+: Max 18.3W, typical 13.5W	PoE+: Max 17W, typical 12.5W
Product Dimensions / Weight	⌀ 251 x 116.5mm (⌀ 9.88" x 4.59"), 3,000g (6.6lb)	215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67") / 1,330g(2.93lb)	

NETWORK

VIDEO RECORDERS
CLOUD
PERIPHERALS
ACCESS CONTROL
IP AUDIO
ANALOG

	PNM-9000QB 2MP x 4CH Remote Head Camera	SLA-T4680A/T4680VA 2MP lens for PNM-9000QB	SLA-T2480WA/T2480WDA 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" CMOS			
Resolution / Max. Frame Rate	2MP / 30fps	–			
Min. Illumination	–	Color: 0.06Lux(F2.5)	Color: 0.045Lux(F2.0, 1/30sec, 30IRE) BW: 0.045Lux(F2.0, 1/30sec, 30IRE) * with PNM-9000QB, XNB-6002	Color: 0.045Lux(F2.0)	Color: 0.03Lux(F1.6)
Video Out	HDMI(1920x1080, Quad view support)	–			
Focal Length (Zoom Ratio)	–	4.6mm	2.4mm		1.6mm
Angular Field of View	–	H: 73° / V: 39° / D: 85°	H: 183° / V: 73° / D:165°		H: 187° / V: 113.9°
Pan / Tilt / Rotate Range	–				
IR Viewable Length	–				
Day & Night	Auto(electrical)	–			
Wide Dynamic Range	120dB	–			
Digital Noise Reduction	SSNRⅣ	–			
Digital Image Stabilization	Support	–			
Analytics	Defocus detection, Motion detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)	–			
Business Intelligence	–	–			
Alarm I/O	1 / 1	–			
Audio I/O	Selectable(mic in/line in) / Line out	–			
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	–			
WiseStream	WiseStream Ⅱ	–			
Streaming	unicast up to 20 users, Mutlicast support, up to 20 profiles	–			
Edge Storage	Micro SD/SDHC/SDXC Max. 512GB x 2slot(Total 1TB)	–			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform	–			
Operating Temperature / Humidity	-10°C ~ +45°C(-40°F ~ +113°F) / Less than 95% RH(Non condensing)	–			
Certification	–				
Power Consumption	PoE: Max 22W, Typical 16.70W DC: Max 19W, Typical: 14W	–			
Product Dimensions / Weight	200(W)x37(H)x146(D)mm(7.87x1.46x5.75") 715g(1.58lb)	ø 24 x L49.8mm, 310g (SLA-T4681) W30 x H27.9 x D45mm, 321g (SLA-T4681V)	ø 35x63.2mm(ø 1.38x2.49"), 101g(0.22lb) (SLA-T2480WA) ø 110.0x77.0mm(ø 3.54x2.36"), 450g(0.99lb) (SLA-T2480WDA) Cable: 8m(26.2ft)	ø 24 x L49.8mm, 318g (SLA-T2481) W30 x H27.9 x D45mm, 328g (SLA-T2481V)	ø 35 x L68.9mm 430g

	QND-8011 5MP Dome Camera	QND-8021 5MP Dome Camera	QNO-7082R 4MP IR Bullet Camera	QNO-7022R 4MP IR Bullet Camera	QNO-7012R 4MP IR Bullet Camera	QNO-6082R/6082R1 2MP IR Bullet Camera	QNO-6072R/6072R1 2MP IR Bullet Camera
Imaging Device	1/2.8" CMOS		1/3" CMOS			1/2.8" CMOS	
Resolution / Max. Frame Rate	5MP / 30fps		4MP / 30fps			2MP / 30fps	
Min. Illumination	Color : 0.15Lux(1/30sec, 30IRE) BW : 0.15Lux(1/30sec, 30IRE)	Color : 0.15Lux(1/30sec, 30IRE) BW : 0.15Lux(1/30sec, 30IRE)	Color : 0.1Lux(1/30sec, 30IRE) BW : 0.01Lux(1/30sec, 30IRE)	Color : 0.15Lux(1/30sec, 30IRE) BW : 0.015Lux(1/30sec, 30IRE)		Color : 0.03Lux(F1.6, 1/30sec, 30IRE) BW : 0.003Lux(F1.6, 1/30sec, 30IRE)	
Video Out	HDMI: 1080p@30/25fps(60/50Hz)		CVBS: 1.0Vp-p / 75Ω composite for installation			CVBS: 1.0Vp-p / 75Ω composite for installation	
Focal Length (Zoom Ratio)	2.8mm	4.0mm	3.2~10mm (3.1x) varifocal	4mm	2.8mm	3.2~10mm (3.1x) varifocal	3.2~10mm (3.1x) varifocal
Angular Field of View	H : 105° / V : 77° / D : 137°	H : 81° / V : 58° / D : 106°	H : 99° (Wide) ~ 30° (Tele) V : 53° (Wide) ~ 17° (Tele) D : 116° (Wide) ~ 35° (Tele)	H:79° / V:42° / D:92°	H : 108° / V : 60° / D : 122°	H : 109° (Wide) ~ 33° (Tele) V : 58° (Wide) ~ 18° (Tele) D : 132° (Wide) ~ 38° (Tele)	
Pan / Tilt / Rotate	0° ~ 350° / 0° ~ 69° / 0° ~ 355°		0° ~ 360° / 0° ~ 100° / 0° ~ 360°				
IR Viewable Length	–		30m (98.42ft)	25m (82.02ft)	20m (65.62ft)	30m (98.43ft)	30m (98.43ft)
Day & Night	Auto (Electrical)		Auto (ICR)				
Wide Dynamic Range	120dB						
Digital Noise Reduction	SSNR						
Digital Image Stabilization	–						
Analytics	Defocus detection, Motion detection, Tampering		Defocus detection, Motion detection, Tampering, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)			Motion detection, Tampering, Defocus detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)	
Business Intelligence	People counting		–				
Alarm I/O	–	–	1 / 1				
Audio I/O	–	–	Selectable (mic in/line in) / –			Selectable (mic in/line in) / – (R) ; – (R1)	Selectable (mic in/line in) / – (R) ; – (R1)
Video Compression	H.265/H.264: Main/High, MJPEG						
WiseStream	Manual, WiseStream Ⅱ						
Streaming	Unicast(6 users) / Multicast, Multiple streaming(Up to 3 profiles)						
Edge Storage	Micro SD/SDHC/SDXC Max. 128GB x 1slot						
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform						
Operating Temperature	-10℃ ~ +40℃ (+14°F ~ +104°F)	-10℃ ~ +40℃(+14°F ~ +104°F) 0~90% RH(non-condensing)	-40℃ ~ +55℃ (-40°F ~ +131°F) /0~95% RH(non-condensing) * Start up should be done at -30℃ or above			-30℃~+55℃(-22°F~+131°F) 0~90% RH(non-condensing) *Start up should be done at above -20℃	
Certification	IK08, IP42	–	IP66, IK10, NEMA 250 type 4X			IP66, IK10, NEMA4X (R) / IP66, IK10 (R1)	IP66, IK10
Power Consumption	PoE : Max 5W, typical 4W	PoE: Max 5.00W, typical 4.00W	PoE: Max 11.4W, typical 8W 12VDC: Max 9.6W, typical 7W	PoE: Max 10.7W, typical 8W 12VDC: Max 9.1W, typical 6.8W		PoE : Max 7.4W, typical 5.4W 12VDC : Max 6.5W, typical 4.8W	
Dimensions (WxHxD) / Weight	ø 99 x 56mm (ø 3.9" x 2.2") 165g (0.364lb)	ø 99.0x56.0mm(ø 3.9x2.2"), 165g(0.36 lb)	ø 78.0x259.8mm(3.07x10.23") 900g(1.98lb)		ø 70.0x246.0mm(2.76x9.69") 700g(1.54lb)	ø 78.0x259.8mm(3.07x10.23") 900g(1.98lb)	ø 70.0x246.0mm(2.76x9.69") 700g(1.54lb)

NETWORK

Page 68 — 2MP IR Bullet / 4MP IR Dome Cameras

	QNO-6022R/6022R1 2MP IR Bullet Camera	QNO-6012R/6012R1 2MP IR Bullet Camera	QND-7082R 4MP IR Dome Camera	QND-7022R 4MP IR Dome Camera	QND-7012R 4MP IR Dome Camera
Imaging Device	1/2.8" CMOS		1/3" CMOS		
Resolution / Max. Frame Rate	2MP / 30fps		4MP / 30fps		
Min. Illumination	Color : 0.03Lux(F1.6, 1/30sec, 30IRE) BW : 0.003Lux(F1.6, 1/30sec, 30IRE)		Color : 0.1Lux(F1.6, 1/30sec, 30IRE) BW : 0.01Lux(F1.6, 1/30sec, 30IRE)		Color : 0.15Lux(F2.0, 1/30sec, 30IRE) BW : 0.015Lux(F2.0, 1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation				
Focal Length (Zoom Ratio)	4mm	2.8mm	3.2~10mm (3.1x) varifocal	4mm	2.8mm fixed focal
Angular Field of View	H : 88° / V : 47° / D : 105°	H : 114° / V : 62° / D : 135°	H : 99° (Wide) ~ 30° (Tele) V : 53° (Wide) ~ 17° (Tele) D : 116° (Wide) ~ 35° (Tele)	H : 79° / V : 42° / D : 92°	H : 108° / V : 60° / D : 122°
Pan / Tilt / Rotate	0° ~ 360° / 0° ~ 100° / 0° ~ 360°		0° ~ 350° / 0° ~ 67° / 0° ~ 355°		
IR Viewable Length	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 , Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)				
Business Intelligence	–				
Alarm I/O	1 / 1				
Audio I/O	Selectable (mic in/line in) / – · –	Selectable (mic in/line in) / – · –	Built-in mic / –		
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 3 Profiles				
Edge Storage	Micro SD/SDHC/SDXC Max. 128GB x 1slot				
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature	-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing) *Start up should be done at above -20°C		-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)		
Certification	IP66, IK10	IP66, IK10	–	–	–
Power Consumption	PoE : Max 7W, typical 5.2W 12VDC : Max 6.1W, typical 4.5W		PoE : Max 8.6W, typical 6.3W 12VDC : Max 7.6W, typical 5.4W	PoE : Max 7.9W, typical 6.1W 12VDC : Max 7.1W, typical 5.1W	
Dimensions (WxHxD) / Weight	ø70.0x246.0mm(2.76x9.69") 700g(1.54lb)		ø119.8x98.8mm(4.72x3.89") 320g(0.71lb)	ø110.0x86.0mm(4.33x3.39") 255g(0.56lb)	

NETWORK

Page 69 — 2MP IR Dome / 2MP Dome Cameras

	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	QND-6021 2MP Dome Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 30fps				
Min. Illumination	Color : 0.03Lux(F1.6, 1/30sec, 30IRE) BW : 0.003Lux(F1.6, 1/30sec, 30IRE)				
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation				–
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) varifocal	3.2~10mm (3.1x) varifocal	4mm	2.8mm	4mm
Angular Field of View	H : 109° (Wide)~33° (Tele) V : 58° (Wide)~18° (Tele) D : 132° (Wide)~38° (Tele)		H:88° / V:47° / D:105°	H:114° / V:62° / D:135°	H:88° / V:47° / D:105°
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°				0° ~ 350° / 0° ~ 69° / 0° ~ 355°
IR Viewable Length	20m (65.62ft)				–
Day & Night	Auto (ICR)				Auto (Electrical)
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR				
Digital Image Stabilization	–				
Analytics	Motion detection, Tampering, Defocus detection , Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)				Defocus detection, Motion detection, Tampering
Business Intelligence	–				People counting
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 Max. 128GB x 1slot				
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)				
Certification	–				IP42, IK08
Power Consumption	PoE : Max 7.7W, typical 6W 12VDC : Max 6.5W, typical 5.1W		PoE : Max 7.7W, typical 6W 12VDC : Max 6.5W, typical 5.1W		PoE : Max 4.8W, typical 2.8W
Product Dimensions / Weight	ø119.8x98.8mm(ø4.72x3.89") 320g(0.71lb)		ø110.0x86.0mm(ø4.33x3.39") 255g(0.56lb)		ø99.0x56.0mm(ø3.9x2.2") 145g(0.32lb)

NETWORK

	QND-6011 2MP Dome Camera	QNV-7082R 4MP IR Vandal Dome Camera	QNV-7032R 4MP IR Vandal Dome Camera	QNV-7022R 4MP IR Vandal Dome Camera	QNV-7012R 4MP IR Vandal Dome Camera
Imaging Device	1/2.8" CMOS	1/3" CMOS			
Resolution / Max. Frame Rate	2MP / 30fps	4MP / 30fps			
Min. Illumination	Color : 0.03Lux(F2.0, 1/30sec, 30IRE) BW : 0.003Lux(F2.0, 1/30sec, 30IRE)	Color : 0.1Lux(F1.6, 1/30sec, 30IRE) BW : 0.01Lux(F1.6, 1/30sec, 30IRE)	Color : 0.15Lux(F2.0, 1/30sec, 30IRE) BW : 0.015Lux(F2.0, 1/30sec, 30IRE)		
Video Out	–	CVBS: 1.0 Vp-p / 75Ω composite for installation			
Focal Length (Zoom Ratio)	2.8mm	3.2~10mm (3.1x) varifocal	6.0mm	4mm	2.8mm
Angular Field of View	H:114° / V:62° / D:135°	H : 99°(Wide) ~ 30°(Tele) V : 53°(Wide) ~ 17°(Tele) D : 116°(Wide) ~ 35°(Tele)	H: 49° / V: 28° / D: 56°	H:79° / V:42° / D:92°	H: 108° / V: 60° / D:122°
Pan / Tilt / Rotate Range	0°~ 350° / 0°~ 69° / 0°~ 355°	0°~ 350° / 0°~ 67° / 0°~ 355°			
IR Viewable Length	–	30m (98.42ft)		25m (82.02ft)	20m (65.62ft)
Day & Night	Auto (Electrical)	Auto (ICR)			
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR				
Digital Image Stabilization	–				
Analytics	Defocus detection, Motion detection, Tampering	Motion detection, Tampering, Defocus detection , Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)			
Business Intelligence	People counting	–			
Alarm I/O	–	1 / 1			
Audio I/O	–	Line in / ~	Selectable (mic in/line in) / ~	Selectable (mic in/line in)	
Video Compression	H.265 / H.264, MJPEG		H.265 / H.264 : Main/High, MJPEG	H.265 / H.264, MJPEG	
WiseStream	WiseStream II		Manual (Sea area), WiseStream II	WiseStreamII II	
Streaming	Up to 3 Profiles		Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)	Up to 3 Profiles	
Edge Storage	Micro SD/SDHC/SDXC Max. 128GB x 1slot				
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-10°C~+55°C(+14°F~+131°F) 0~90% RH(non-condensing)	-40°C~+55°C(-40°F~+131°F) 0~95% RH(non-condensing) *Start up should be done at above -30°C			
Certification	IP42, IK08	IP66, IK10			
Power Consumption	PoE : Max 4.8W, typical 2.8W	PoE: Max 11.4W, typical 8.5W 12VDC: Max 9.6W, typical 7.2W	PoE: Max 10.7W, typical 8.1W 12VDC: Max 9.1W, typical 6.5W		
Product Dimensions / Weight	ø 99.0x56.0mm(ø 3.9x2.2") 145g(0.32lb)	ø 137.0x106.1mm(ø 5.39x4.18") 710g(1.57lb)	ø 120.3x91.7mm(4.74x3.61") 510g(1.12lb)		

NETWORK

	QNV-6082R/6082R1 2MP IR Vandal Dome Camera	QNV-6072R/6072R1 2MP IR Vandal Dome Camera	QNV-6022R/6022R1 2MP IR Vandal Dome Camera	QNV-6012R/6012R1 2MP IR Vandal Dome Camera	QNV-6024RM 2MP IR Mobile Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 30fps				
Min. Illumination	Color : 0.03Lux(F1.6, 1/30sec, 30IRE) BW : 0.003Lux(F1.6, 1/30sec, 30IRE)				
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation				
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal	3.2~10mm (3.1x) varifocal	4mm fixed	2.8mm fixed	3.6mm fixed
Angular Field of View	H : 109° (Wide) ~ 33° (Tele) V : 58° (Wide) ~ 18° (Tele) D : 132° (Wide) ~ 38° (Tele)		H : 88° / V : 47° / D : 105°	H : 114° / V : 62° / D : 135°	H : 95° / V : 50° / D : 115°
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°				±5° / 0 ~ 67° / ±90°
IR Viewable Length	30m (98.42ft)		25m (82.02ft)		15m (49.21ft)
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR				
Digital Image Stabilization	–				
Analytics	Motion detection, Tampering, Defocus detection , Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)				Defocus detection, Motion detection, Tampering, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)
Business Intelligence	–				
Alarm I/O	1 / 1				–
Audio I/O	Selectable (mic in/line in)/– –	Selectable (mic in/line in)/– –	Selectable (mic in/line in)/– –	Selectable (mic in/line in)/– –	Selectable (mic in/line in/built-in mic)/ Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStreamII II				
Streaming	Up to 3 Profiles				
Edge Storage	Micro SD/SDHC/SDXC Max. 128GB x 1slot				
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing) *Start up should be done at above -20°C				-30°C~+55°C(-22°F~+131°F) 0~90% RH(non-condensing)
Certification	IP66, IK10				IP66, IK10
Power Consumption	PoE: Max 7.70W, typical 6.00W 12VDC: Max 6.50W, typical 5.10W		PoE : Max. 7.40W, typical 6.00W 12VDC: Max. 6.40W, typical 5.10W		PoE : Max 6.7W, typical 5W
Product Dimensions / Weight	ø 137.0x106.1mm (ø 5.39x4.18") 710g(1.57lb)		ø 120.3x91.7mm(4.74x3.61") 510g(1.12lb)		W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)

NETWORK

VIDEO RECORDERS | CLOUD | PERIPHERALS | ACCESS CONTROL | IP AUDIO | ANALOG

	QNP-6320R 2MP 32x IR PTZ Camera	QNP-6250R 2MP 25x IR PTZ Camera	QNP-6320H 2MP 32x Outdoor PTZ Camera	QNP-6250H 2MP 25x Outdoor PTZ Camera	QNP-6320 2MP PTZ Camera	QNP-6250 2MP 32x Outdoor PTZ Camera
Imaging Device	1/2.8˝ CMOS					
Resolution / Max. Frame Rate	2MP / 60fps					
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE),		Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)		Color: 0.05 LuxColor(1/30sec, 30IRE) BW: 0.005 Lux(1/30sec, 30IRE)	Color: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)
Video Out	–					
Focal Length (Zoom Ratio)	4.44~142.6mm(32x) zoom	4.44~111mm(25x) zoom	4.44~142.6mm(32x) zoom	4.44~111mm(25x) zoom	4.44~142.6mm(32x) zoom	4.44~111mm(25x) zoom
Angular Field of View	H:64.66˚~2.29˚ V:38.08˚~1.30˚	H:64.66˚~2.99˚ V:38.08˚~1.68˚	H:64.66˚~2.29˚ V:38.08˚~1.30˚	H:64.66˚~2.99˚ V:38.08˚~1.68˚	H:64.66˚~2.29˚ V:38.08˚~1.30˚	H:64.66˚~2.99˚ V:38.08˚~1.68˚
Pan / Tilt / Rotate Range	360˚ Endless / –110˚ (90˚~–20˚)					
IR Viewable Length	100m(328.08ft)		–			
Day & Night	Auto(ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	SSNR V					
Digital Image Stabilization	Support					
Analytics	Motion detection, Tampering, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)		Motion detection, Tampering, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)	Motion detection, Tampering, Audio detection, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Motion detection, Tampering, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)
Business Intelligence	–					
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)				Input 4ea / Output 2ea	
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)				Selectable(mic in/line in), Line out	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG					
WiseStream	Manual, WiseStream II					
Streaming	Up to 10 profiles					
Edge Storage	Micro SD/SDHC/SDXC 1slot Max. 256GB					
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) **Hanwha Vision** Open Platform					
Operating Temperature / Humidity	–35˚C~+55˚C(–31˚F~+131˚F) * Start up should be done at above-30˚C 0~95% RH(non-condensing)				–10˚C~+55˚C(14˚F~+131˚F) 0~95% RH(non-condensing)	
Certification	IP66, IK10				–	
Power Consumption	PoE+: Max. 25.5W, typical 14.7W		PoE+: Max. 23W, typical 14W		Max. 23W, Typ. 14W	PoE+: Max 14.5W, typical 12W
Product Dimensions / Weight	ø 158x293.3mm(ø 6.22x11.55˝), 3,100g(6.83lb)		ø 204.3x265mm(ø 8.04x10.43˝), 2,700g(5.95lb)		ø 152x218mm(ø 5.98x8.58˝), 1,700g(3.75 lb)	

	QNP-6320HS 2MP 32x Stainless Steel PTZ Camera	QNB-6002 2MP Box Camera	QNF-9010 12MP Fisheye Camera	QNF-8010 6MP Fisheye Camera
Imaging Device	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) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)	Color: 0.01Lux (F1.2) BW: 0.001Lux(F1.2)	Color: 0.39 Lux (F2.2, 1/30sec)	Color : 0.2 Lux (F2.5) BW: 0.02Lux (F2.5)
Video Out	–	CVBS 1.0 Vp-p		
Focal Length (Zoom Ratio)	4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)	–	1.08mm fixed	1.14mm fixed
Angular Field of View	–	H: 64.66˚ (Wide)~ 2.29˚ (Tele) 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˚)		–	
IR Viewable Length	–			
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR V	SSNR	SSNR V	SSNR V
Digital Image Stabilization	Support		–	
Analytics	Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)		Defocus detection, Motion detection, Tampering	
Business Intelligence	–			
Alarm I/O	–	1 / 1	–	
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)	Selectable(mic in/line in)	–	
Video Compression	H.265, H.264, MJPEG			
WiseStream	Manual, WiseStream II	WiseStream II	Manual, WiseStream II	WiseStream II
Streaming	Up to 10 profiles		Up to 3 Profiles	
Edge Storage	Max. 256GB x 1slot	Max. 128GB x 1slot	Max. 256GB x 1slot	Max. 256GB x 1slot
Application Programming Interface	ONVIF S/G/T, SUNAPI(HTTP API), **Hanwha Vision** Open Platform			
Operating Temperature / Humidity	–35˚C~+55˚C(–31˚F~+131˚F) / * Start up should be done at above –25˚C 0~95% RH(non-condensing)	–10˚C~+55˚C (–14˚F ~+131˚F) 0~95% RH(non-condensing)	–10˚C ~+40˚C (+14˚F ~+104˚F) 0~95% RH(non-condensing)	–10˚C ~ +55˚C (+14˚F ~+131˚F) 0~95% RH(non-condensing)
Certification	IP66, IP67, IK10, NEMA4X	–	–	IP42
Power Consumption	Max. 23W, typical 14W	PoE : Max 6.4W, typical 4.6W 12VDC : Max 5.8W, typical 4.1W	PoE: Max 7.7W, typical 6.4W	PoE : Max 6.4W, typical 4.6W
Product Dimensions / Weight	ø 227x299.2mm(8.94x11.78˝), 5,400g(11.93 lb)	W 73.8 x H 66.6 x D 136.2mm (2.91˝ x 2.62˝ x 5.36˝) 320g (0.71lb)	ø 99 x 49 mm (ø 3.9˝ x 1.93˝) 370g (0.82lb)	ø 99 x 49 mm (ø 3.9˝ x 1.93˝) 320 g (0.705lb)

	TNU-6322E 2MP Explosion-proof Camera	TNU-6322ER 2MP Explosion-proof Camera	TNU-6321 2MP Explosion-proof Camera	TNV-7011RC 3MP Corner Mount Camera	TNV-8011C 5MP Corner Mount Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 60fps			3MP / 30fps	5MP / 30fps
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)	Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)	Color: 0.3 lux (F2.0, 1/30sec) BW: 0.03 lux (F2.0, 1/30sec)	Color: 0.1 lux (F2.3, 1/30sec) BW: 0.02 lux (F2.3, 1/30sec)
Video Out	–		CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P), for installation	CVBS: 1.0 Vp-p	CVBS: 1.0 Vp-p, Micro USB Type B
Focal Length (Zoom Ratio)	4.44~142.6mm(32x) zoom			2.8mm fixed focal	2.3mm fixed focal
Angular Field of View	H: 61.8° (Wide) ~ 2.19° (Tele) V: 36.2° (Wide) ~1.24° (Tele)			H: 102° / V: 75° / D: 129°	H: 131° / V: 93.4° / D: 174°
Pan / Tilt / Rotate Range	–	–	–	– / 30°~ 60° / –	–
IR Viewable Length	–	200m (656.1ft)	–	10m(32.8ft)	–
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support				
Analytics	Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear)			Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)	Defocus detection, Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)
Business Intelligence	–				
Alarm I/O	1 / 1				
Audio I/O	Selectable(mic in/line in) / Line out, Max.output level: 1Vrms, Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm			Selectable(mic in/line in) / Line out	
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG			H.265, H.264, MJPEG	
WiseStream	Manual, WiseStream II			WiseStream II	
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)			Up to 10 profiles	Up to 3 profiles
Edge Storage	–	–	Max. 256GB x 1slot		Max. 128GB x 1slot
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform			SUNAPI(HTTP API) Hanwha Vision Open Platform	
Operating Temperature / Humidity	-40°C ~ +60°C(-40°F ~ +140°F) 0~95% RH(non-condensing)		-40°C ~ +55°C(-40°F ~ +131°F) 0~90%RH(Non-condensing)	-10°C ~ +55°C(+14°F ~ +131°F) 0~90% RH(non-condensing)	
Certification	IP67, IK10			IP66, IP6K9K, IK10+	IP66, IP6K9K, IK10
Power Consumption	24VAC: Max. 99W	24VAC: Max. 99W (Camera) 24VAC: Max. 50W (IR)	Max 100W(Heater On), typical 25W(Heater Off)	PoE: Max 12W, typical 10.1W, 12VDC: Max. 11W, typical 8.6W	PoE: Max 6.49W, typical 4.6W,
Product Dimensions / Weight	611(W)x438(H)x235(D)mm (24.06x17.24x9.25"), 3,600g(79.37lb)	611(W)x438(H)x235(D)mm (24.06x17.24x9.25"), 3,600g(79.37lb)	219(W) × 528.2(H) × 460(D)mm (8.62x20.79x18.11"), 1,400g (30.86 lb)	274.5(W)x258.5(H)x113.5(D)mm (10.81x10.18x4.5"), 2,100g (4.63lb)	170(W)x165(H)x78.8(D)mm (6.69x6.49x3.10") 830g (1.83lb)

	TNU-6324E 2MP Explosion-proof Camera	TNU-6324ER 2MP Explosion-proof Camera	TNO-6322ER 2MP Explosion-proof Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	2MP / 60fps		
Min. Illumination	Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)		Color: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)
Video Out	–		
Focal Length (Zoom Ratio)	4.44~142.6mm(Optical 32X)		
Angular Field of View	H:61.8°~2.19° / V:36.2°~1.24° / D:–		
Pan / Tilt / Rotate Range	360° Endless / 180°(-90°~90°) / –		–
IR Viewable Length	–	200m(656.17ft)	70m (229.66ft)
Day & Night	Auto(ICR)		
Wide Dynamic Range	120dB		
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	Support		
Analytics	Motion detection, Tampering, Fog detection, Face detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)		Defocus detection, Motion detection, Tampering, Fog detection, Face detection, Audio detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction)
Business Intelligence	–		
Alarm I/O	1 / 1		
Audio I/O	–		Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG		
WiseStream	Manual, WiseStream II		
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)		
Edge Storage	–		
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform		ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform
Operating Temperature / Humidity	-40°C~+60°C(-40°F~+140°F) / Less than 95% RH * Start up should be done at above -30°C		IR Off: -40°C~+60°C(-40°F~+140°F) / Less than 95% RH IR On: -40°C~+55°C(-40°F~+131°F) / Less than 95% RH
Certification	IP67, IK10		IP67, IK10
Power Consumption	100~240VAC, 1.4A, Max. 87W	100~240VAC, 1.7A, Max. 120W	24VAC: Max. 45W
Product Dimensions / Weight	611(W)x438(H)x235(D)mm(24.06x17.24x9.25"), 3,600g(79.37lb)	611(W)x438(H)x235(D)mm(24.06x17.24x9.25"), 3,600g(79.37lb)	175(W)x242.5(H)x320(D)mm(6.89x9.59x12.59"), 1,150g(25.35lb)
Additional Features	Stainless(SUS316L) housing, Built in wiper		

NETWORK

VIDEO RECORDERS CLOUD PERIPHERALS ACCESS CONTROL IP AUDIO ANALOG

	TNU-4051T VGA Thermal Positioning Camera	TNU-4041T VGA Thermal Positioning Camera	TNO-4050T VGA Thermal Bullet Camera	TNO-4040T VGA Thermal Bullet Camera
Imaging Device	Uncooled micro bolometer		Uncooled micro bolometer (Spectral range: 8~14㎛)	
Resolution	640x480 / 30fps		640x480(original), 640x360, 320x240	
Max. Frame Rate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz), MJPEG: Max. 30fps/25fps(60Hz/50Hz)		H.265/H.264: Max. 30fps/25fps(60Hz/50Hz), MJPEG: Max. 30fps	
NETD	≤50mK			
Pixel Pitch	17㎛			
Focal Length	35mm fixed focal	19mm fixed focal	35mm fixed focal	19mm fixed focal
Angular Field of View	H: 17.2° / V: 13° / D: 22°	H: 32° / V: 24.3° / D: 39.2°	H: 17.2° / V: 13° / D: 22° (iFoV: 0.47 mRad)	H: 32° / V: 24.3° / D: 39.2° (iFoV: 0.895 mRad)
Pan / Tilt / Rotate	360° Endless / −90°~40° / −		−	−
Min. Object Distance	−		36m(118.11ft)	11m(36.09ft)
Video Output	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	
Analytics	Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature change detection		Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection	
Alarm I/O	Input 1ea / Output 1ea		Input 1ea / Output 2ea	
Audio I/O	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms		Selectable(mic in/line in)	
Temperature Detect Range	−			
Temperature Accuracy	−			
Temperature Detection	−			
Additional	−			
WiseStream	WiseStream II		Manual, WiseStream II	
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)			
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform			
Memory	1024MB RAM, 256MB Flash			
Operating Temperature/ Humidity	−40°C~+55°C (−40°F ~+131° F) / 0~90%RH(Non-condensing)		−40°C~+60°C (−40°F ~+140°F) / 0~90%RH(Non-condensing)	
Certification	IP66, NEMA4X		IP66, NEMA4X	IP66, IK10, NEMA4X
Power Consumption	24VAC: Max 84W(Heater on), Max 62W(Heater off)		PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W	
Dimensions (WxHxD) / Weight	(W)219 × (H)528 × (D)335mm(8.62x20.79x13.19"), 1,170g(25.79lb)		ø 101.97x401.8mm(4.01x15.82"¹) / 3,175g(7.01 lb)	

	TNO-L4040TR VGA Thermal Bullet Camera	TNO-4040TR VGA Thermal Bullet Camera	TNO-4030T VGA Thermal Bullet Camera	TNO-L4030T VGA Thermal Bullet Camera
Imaging Device	Uncooled micro bolometer			
Resolution	640x480, 640x360, 320x240			
Max. Frame Rate	H.265/H.264/MJPEG: Max. 8fps	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps	H.265/H.264/MJPEG: Max. 8fps
NETD	<50mK			
Pixel Pitch	17㎛			
Focal Length	19mm fixed focal		13mm fixed focal	
Angular Field of View	H: 32° / V: 24.3° / D: 39.2°		H: 48.6° / V: 36.4 / D: 61.6°	
Min. Object Distance	11m(36.09ft)		5m(16.40ft)	
Video Output	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.			
Analytics	Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection			
Alarm I/O	Input 1ea / Output 2ea			
Audio I/O	Selectable(mic in/line in)			
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	6 Quadrangle ROI zones		
Additional	Hybrid palettes, Spot temperature reading	Hybrid palettes, Spot temperature reading	−	
WiseStream	Manual, WiseStream II			
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)			
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision open platform			
Memory	1024MB RAM, 256MB Flash			
Operating Temperature/ Humidity	−40°C~+60°C (−40°F ~+140°F) / 0~90%RH(Non-condensing)			
Certification	IP66, IK10, NEMA4X			
Power Consumption	PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W			
Dimensions (WxHxD) / Weight	ø 101.97x401.8mm(4.01x15.82") / 3,175g(7.01lb)	ø 101.97x401.8mm(4.01x15.82") / 3,175g(7.01lb)	ø 101.97x401.8mm(4.01x15.82") / 3,124g(6.89 lb)	ø 101.97x401.8mm(4.01x15.82") / 3,124g(6.89 lb)

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	TNO−3050T QVGA Thermal Bullet Camera	TNO−3040T QVGA Thermal Bullet Camera	TNO−3030T QVGA Thermal Bullet Camera	TNO−3020T QVGA Thermal Bullet Camera
Imaging Device	Uncooled micro bolometer			
Resolution	320x240			
Max. Frame Rate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz), MJPEG: Max. 30fps			
NETD	<60mK			
Pixel Pitch	12μm			
Focal Length	35mm fixed focal	19mm fixed focal	13.7mm fixed focal	4.7mm fixed focal
Angular Field of View	H: 6.3° / V: 4.7° / D: 7.8°	H: 12° / V: 9° / D: 15°	H: 16.0° / V: 12.0° / D: 20.0°	H: 50.0° / V: 36.4° / D: 65.3°
Min. Object Distance	51m(167.32ft)	15m(49.21ft)	8m(26.25ft)	1m(3.28ft)
Video Output	CVBS: 1.0 Vp−p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.			
Analytics	Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection			
Alarm I/O	Input 1ea / Output 2ea			
Audio I/O	Selectable(mic in/line in)			
Temperature Detect Range	−			
Temperature Accuracy	−			
Temperature Detection	−			
Additional	−			
WiseStream	Manual(5ea area), WiseStream II			
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)			
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform			
Memory	1024MB RAM, 256MB Flash			
Operating Temperature/ Humidity	−40°C~+60°C (−40°F ~+140°F) / 0~90%RH(Non−condensing)			
Certification	IP66, NEMA4X	IP66, IK10, NEMA4X		
Power Consumption	PoE: Max. 8.7W, typical 7.5W 12VDC: Max. 7.8W, typical 6.7W 24VAC: Max. 9.2W, typical 8.0W			
Dimensions (WxHxD) / Weight	ø 147.51x401.3mm(5.81x15.79") / 2,742g(6.05lb)	ø 147.51x375.3mm(5.81x14.78") / 2,495g (5.50lb)	ø 147.51x375.3mm(58.07x147.76") / 2,512g(5.538lb)	ø 147.51x375.3mm(58.07x147.76") / 2,512g(5.538lb)

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	TNO−L3030T QVGA Thermal Bullet Camera	TNO−3010T QVGA Thermal Bullet Camera	TNO−4030TR VGA Thermal Bullet Camera	TNO−L4030TR VGA Thermal Bullet Camera	TID−600R 2MP Intercom
Imaging Device	Uncooled micro bolometer				1/2.8" CMOS
Resolution	320x240		640x480, 640x360, 320x240		2MP
Max. Frame Rate	H.265/H.264/MJPEG: Max. 8fps	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz), MJPEG: Max. 30fps	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz), MJPEG: Max. 30fps	H.265/H.264/MJPEG: Max. 8fps	H.265/H.264: Max. 60fps/50fps(60Hz/50Hz) MJPEG: Max. 30fps
NETD	<60mK		<50mK		−
Pixel Pitch	12μm		17μm		−
Focal Length	35mm fixed focal	2.7mm fixed focal	13mm fixed focal		1.6mm fixed focal
Angular Field of View	H: 16° / V: 12° / D: 20°	H: 92.0° / V: 65.5° / D: 125.7°	H: 48.6° / V: 36.4 / D: 61.6°		H: 180° / V: 114° / D: 180°
Min. Object Distance	8m(26.25ft)	0.3m(0.98ft)	5m(16.40ft)	5m(16.40ft)	0.3m (0.98ft)
Video Output	CVBS: 1.0 Vp−p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.				CVBS: 1.0Vp−p / 75Ω composite, 720x480(N), 720x576(P) for installation
Analytics	Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Loitering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection				
Alarm I/O	Input 1ea / Output 2ea				Input 2ea / Output 1ea, Relay out 1ea (12VDC Max. 550mA with 2A adapter), Tampering switch, Touchless call
Audio I/O	Selectable(mic in/line in)				Built−in mic / Built−in speaker: 85dB at 0.5m(1.64ft)
Temperature Detect Range	−	−20°C~130°C(−4°F~266°F)			−
Temperature Accuracy	−	±5°C(≤100°C), ±20%(>100°C)			−
Temperature Detection	−	6 Quadrangle ROI zones			−
Additional	−	Hybrid palettes, Spot temperature reading			−
WiseStream	Manual, WiseStream II				
Streaming	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)				
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB				
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API), Hanwha Vision Open Platform				ONVIF Profile S, SUNAPI(HTTP API), Hanwha Vision Open Platform
Memory	1024MB RAM, 256MB Flash				−
Operating Temperature/ Humidity	−40°C~+60°C (−40°F ~+140°F) /0~90%RH(Non−condensing)				−30°C ~ +55°C(−22°F~+131°F) / 0~95% RH
Certification	IP66, IK10, NEMA4X				IP65, IK08, NEMA4X, Safety(UL), EMC(FCC, CE)
Power Consumption	PoE: Max. 8.7W, typical 7.5W 12VDC: Max. 7.8W, typical 6.7W 24VAC: Max. 9.2W, typical 8.0W		PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W		PoE: Max 12.95W, typical 9.1W, 12VDC: Max 17.6W, typical 7W * 12VDC power consumption includes 12VDC/550mA relay out.
Dimensions (WxHxD) / Weight	ø 147.51x375.3mm(5.81x14.78") 2,512g(5.538lb)		ø 101.97x401.8mm(4.01x15.82") 3,124g(6.89lb)		49(W)x165(H)x48(D)mm(1.93x6.50x1.89") / 490g(1.08lb)

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	LNO-6072R 2MP IR Bullet Camera	LNO-6022R 2MP IR Bullet Camera	LNO-6012R 2MP IR Bullet Camera	LND-6072R 2MP IR Dome Camera	LND-6022R 2MP IR Dome Camera
Imaging Device	1/2.8″ CMOS				
Resolution / Max. Frame Rate	2MP / 30fps				
Min. Illumination	Color: 0.03Lux (F1.6, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F1.6, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)
Video Out	–				
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) manual varifocal	4.0mm fixed focal	2.8mm fixed focal	3.2~10mm(3.1x) manual varifocal	4.0mm fixed focal
Angular Field of View	H: 109°(Wide) ~ 33°(Tele) V: 58°(Wide) ~ 18°(Tele) D: 132°(Wide) ~ 38°(Tele)	H: 88° / V: 47° / D: 105°	H: 114° / V: 62° / D: 135°	H: 109° (Wide) ~ 33° (Tele) V: 58° (Wide) ~18° (Tele) D: 132° (Wide) ~ 38° (Tele)	H: 85°/ V: 46° / D: 99°
Pan / Tilt / Rotate Range	0°~ 350°/ 0°~ 100°/ 0°~360°			0°~ 350°/ 0°~ 67°/ 0°~355°	
IR Viewable Length	30m (98.43ft)			20m(65.62ft)	
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.265/H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 3 profiles				
Edge Storage	micro SD/SDHC/SDXC 1slot 32GB				
Operating Temperature / Humidity	ONVIF Profile S/G/T, SUNAPI (HTTP API)				
Operating Temperature	−30℃ ~ +55℃ (−22°F ~ +131°F) / 0~90% RH * Start up should be done at above −20℃ (−4°F)			−10℃ ~ +55℃ (+14°F ~ +131°F) / 0~90% RH	
Certification	IP66, IK10	IP66	IP66, IK10	–	
Power Consumption	Max 6.4W, Typical 5W				
Product Dimensions / Weight	ø 78 x 262mm (ø 3.07″ x 10.31″) 420g (0.93lb)	ø 78 x 262mm (ø 3.07″ x 10.31″) 390g (0.86lb)	ø 78 x 262mm (ø 3.07″ x 10.31″) 390g (0.86lb)	ø 119.8x98.8mm(ø 4.72x3.89″), 315g	ø 110 x 86mm (ø 4.33″ x 3.39″) 270g (0.59lb)

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	LND-6012R 2MP IR Dome Camera	LNV-6072R 2MP IR Vandal Dome Camera	LNV-6022R 2MP IR Vandal Dome Camera	LNV-6012R 2MP IR Vandal Dome Camera
Imaging Device	1/2.8″ CMOS			
Resolution / Max. Frame Rate	2MP / 30fps			
Min. Illumination	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F1.6, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)	Color: 0.03Lux (F2.0, 1/30sec) BW : 0Lux (IR LED on)
Video Out	–			
Focal Length (Zoom Ratio)	2.8mm fixed focal	3.2~10mm (3.1x) manual varifocal	4.0mm fixed focal	2.8mm fixed focal
Angular Field of View	H: 114°/ V: 62° / D: 135°	H: 109° (Wide) ~ 33° (Tele) V: 58° (Wide) ~18° (Tele) D: 132° (Wide) ~ 38° (Tele)	H: 85°/ V: 46°/ D: 99°	H: 114° / V: 62° / D: 135°
Pan / Tilt / Rotate Range	0°~ 350°/ 0°~ 67°/ 0°~355°			
IR Viewable Length	20m (65.62ft)	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			
Operating Temperature / Humidity	ONVIF Profile S/G/T, SUNAPI (HTTP API)			
Operating Temperature	−10℃ ~ +55℃ (+14°F ~ +131°F) / 0~90% RH	−30℃ ~ +55℃ (−22°F ~ +131°F) / 0~90% RH * Start up should be done at above −20℃ (−4°F)		
Certification	–	IP66, IK10	IP66, IK10	IP66, IK10
Power Consumption	Max 6.4W, Typical 5W	Max 6.4W, Typical 5W	Max 6.4W, Typical 5W	Max 6.4W, Typical 5W
Product Dimensions / Weight	ø 110 x 86mm (ø 4.33″ x 3.39″) 270g (0.59lb)	ø 137.8x106.1mm (ø 5.43″ x 4.18″) 525g (1.16lb)	ø 120.3 x 91.7mm (ø 4.74″ x 3.61″) 410g (0.9lb)	ø 120.3 x 91.7mm (ø 4.74″ x 3.61″) 410g (0.9lb)

Sidebar tabs: VIDEO RECORDERS · CLOUD · PERIPHERALS · ACCESS CONTROL · IP AUDIO · ANALOG

Direct-to-cloud
video management solution
OnCloud

A Comprehensive Video Surveillance-as-a-Service(VSaaS) platform designed to provide direct-to-cloud security solutions with powerful edge analytics, wide compatibility, and seamless user experience. It suports a broad range of devices and offers flexible deploymenntt with built-in AI, cloud storage, and mobile access —all tailored to end users, integrators, and distributors.

Hanwha Vision OnCloud is initially launched with a strong focus on the North American market with plans for global expansion.

OnCAFE
Simplify Your Access Control Management

OnCAFE is Hanwha Vision's truly open and highly secure cloud access control system that transforms physical security management with real-time monitoring and intelligent dashboards—from initial configuration to final deployment. With enhanced capabilities for door configuration, credential management, AI-driven scheduling, and professional integration tools, OnCAFE enables integrators and security professionals to plan, deploy, and manage complete access control systems.

Hanwha Vision OnCAFE is initially launched with a strong focus on the North American market with plans for global expansion.
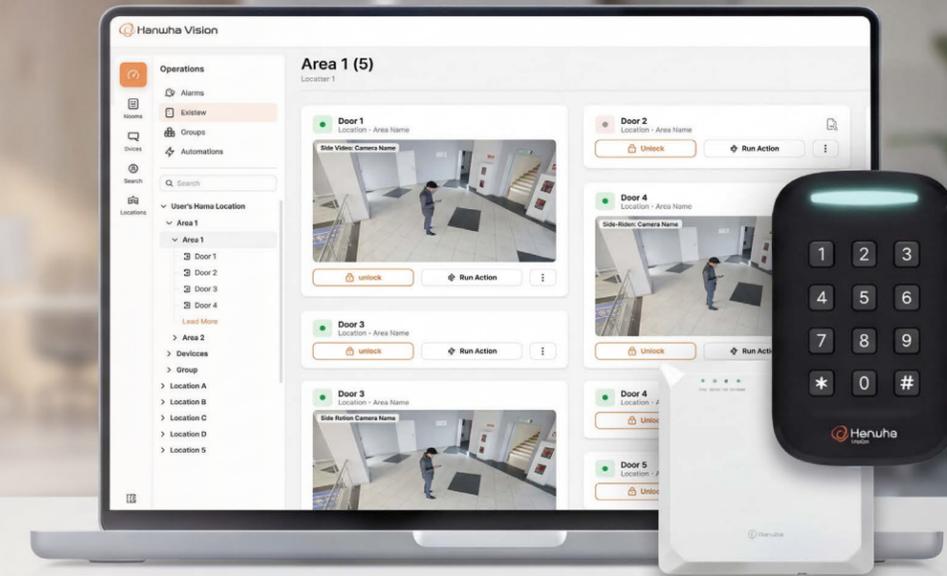
Frictionless Cloud Ecosystem

- **Infinitely Scalable**
  Expand your system by adding unlimited cameras, locations, and users. OnCloud natively supports over 100 Hanwha Vision camera models.

- **Aways Accessible**
  Centralized and easy access for all users, anytime, anywhere.

Easy Setup and Intuitive Management

- **Easy Onboarding**
  Quickly add cameras in just two steps, without needing QR codes, serial numbers, or model selections.

- **Intuitive & Instant**
  Quickly find footage, gain insights, and manage cameras through intuitive dashboards. Intuitive web and mobile interfaces for end users.

Comprehensive Monitoring & Management Tools

- **Dynamic Camera Wall**
  Monitor up to 12 cameras simultaneously with customizable live views and playback.

- **Smart Search**
  Quickly find specific footage and information.

- **Real-time Alerts & Event Management:**
  Receive instant event notifications and efficiently manage events with reporting tools.

- **Streamlined Incident Management**
  Easily manage incidents, share video clips, and collaborate on evidence.

Customizable Service Plans

- Choose from diverse storage options and flexible 1, 3, or 5-year subscriptions.

Mobile-Friendly

- Conveniently manage your system on the go using the OnCloud mobile app for Android and iOS.

Real-time Monitoring & Direct-to-Cloud

- Real-time system monitoring, alarm response, and critical door management

- Direct cloud connection (no additional hardware or bridge required)

Scalability & Deployment

- Single-site and multi-site deployment support

- Add controllers as needed without on-premise server constraints

- Easiest ACS platform to learn on the market

Advanced Access Management

- Unified identity management

- Mobile credential management

- AI-configured schedules using natural language)

- Advanced Event-to-Action

Hardware & Integration

- VMS integration (WAVE VMS, OnCloud)

- OSDP/ONVIF standards compliance

- Elevator control (up to 128 floors)

- PoE++ support, UL-listed fire alarm input

DesignPro

Simplify Your Security System Planning

DesignPro is Hanwha Vision's next-generation cloud platform that transforms security system design with an intuitive interface and intelligent dashboards—from initial planning to final deployment. With enhanced capabilities for camera selection, field of view visualization, bandwidth calculation, and professional report generation, DesignPro enables integrators and security professionals to plan, design, and specify complete surveillance systems.

Hanwha Vision DesignPro is initially launched with a strong focus on the North American market with plans for global expansion.

Streamlined Project Management

• Create and manage multiple projects simultaneously with cloud-based access.

• Access the complete Hanwha Vision camera and device catalog with live data.

• Set up reusable profiles and get instant device recommendations.

• Export/import project files for seamless team collaboration.

Intelligent System Estimation

• Automatic bandwidth calculation for accurate network planning.

• Storage capacity and retention time estimation.

• Power consumption (PoE) and network port requirements analysis.

• Real-time warnings for resource shortages and system limitations.

Visual Planning Tools

• Upload floor plans or use Google Maps for site layout and camera placement.

• Visualize field of view (FoV) beams with DORI zones (Detection, Observation, Recognition, Identification).

• Measure distances and add obstructions for accurate coverage planning.

• Color-code camera groups and optimize positioning before installation.

Professional Reporting Suite

• Generate customizable quotations and Bill of Materials (BOM) for procurement.

• Export technical specifications and bandwidth reports for tender documents.

• Bulk download spec sheets and create map visualizations.

• Professional client-ready documentation in minutes.

Multi-site Health Monitoring and Maintenance Solution
HealthPro

HealthPro is a powerful cloud-based device health monitoring solution designed for organizations managing large-scale, multi-site security systems. HealthPro centralizes the monitoring, management, and maintenance of security infrastructure, like cameras, servers, and storage—across thousands of locations. Whether you're in retail, banking, transportation, or critical infrastructure, HealthPro helps you stay ahead of device isssues, firmware updates, and warranty mangement-without the need for on-site intervention.

Total Visibility
One Dashboard

- **Unified Monitoring**
  Get a centralized, real-time overview of device health across thousands of locations.

- **Instant Drill-Down**
  Instantly drill into cameras, servers, and storage to see issues, logs, and status at a glance.

Remote Fixes,
No Travel Needed

- **Cloud Updates**
  Remotely update firmware, reboot cameras, and manage devices —all through the cloud.

- **Cost Reduction**
  Reduce operational costs by eliminating the need for on-site tech visits.

Prevent Downtime with
Smart Alerts

- **Real-time Alerts**
  Receive email and web push notifications when devices fail, degrade, or go offline.

- **Task Automation**
  Assign and track tasks through workflows to ensure fast, accountable resolution.

Plan Ahead with
Life Cycle Insights

- **Warranty Tracking**
  Monitor warranty status and device age to prioritize replacements and upgrades.

- **Smart Reporting**
  Export actionable reports for asset planning, budgeting, and compliance audits.

Scan this QR to learn more about HealthPro.

HealthPro
Multi-site health monitoring and maintenance

General	Product Name	HealthPro v 1.10
	Product Type	Software as a Service (SaaS)
	Cloud Service Provider	AWS (US region)
	Service Locations	North America, South Korea, Oceania, Europe
	User Interface	Supports all OS (Windows and Linux) and devices (PC, Tablet, Mobile) using Chrome, Edge, and Safari web browsers
	Supported Language	English, Korean, French, German, Spanish, Italian, Portuguese (Brazilian)
	Protocol	HTML5, CSS, JS, ARIA, DOM, Web APIs, HTTP, REST API, MIME type, JSON, WebSocket, XML, JSON, CSV, TLS, HTTPS, CORS, UTF-8, i18n, l10n, MQTTS, SUNAPI, VAPIX, i-PRO CGI, WAVE HTTP REST API
	Network Connection *A firewall exception is required.	Source / Destination / Port / Application: HealthPro Bridge / *.hanwhavision.cloud / TCP 443 / HTTPS HealthPro Bridge / *.hanwhavision.cloud / TCP 443 / MQTTS HealthPro Bridge / *.s3.amazonaws.com / TCP 443 / HTTPS Web Browser / *.hanwhavision.cloud / TCP 443 / HTTPS Web Browser / *.hanwhavision.cloud / TCP 443 / WSS Web Browser / maps.gstatic.com / TCP 443 / HTTPS Web Browser / fonts.gstatic.com / TCP 443 / HTTPS Web Browser / maps.googleapis.com / TCP 443 / HTTPS
Scalability	# of Locations per Org.	5,000
	# of Devices per Org.	20,000
	# of Users per Org.	1,000
	# of Clients (web) per Org.	Unlimited
Compatible Devices	Hanwha Vision	SUNAPI v2.6.0+ Camera & NVR via HealthPro Bridge or D2C
	Hanwha Vision VMS	WAVE v5+ via HealthPro Bridge or WAVE Sync account
	3rd Party	VAPIX v1.0+, i-PRO CGI v1.14+, Onvif Camera, Allied Telesis PoE (SNMP v2c) via HealthPro Bridge
	HealthPro Bridge v 1.10	- Free Software for Cloud Connectivity - Web & Node.js with CloudConnector (Some components use C# .NET Framework, MS VisualC++) - Supported Language: English, Korean, French, German, Spanish, Italian, Portuguese (Brazilian) - # of Devices per Software: 200+ - Supported Devices: Hanwha Vision Camera, WAVE VMS, 3rd Party Camera (AXIS, i-PRO, Onvif), NVR, Allied Telesis (PoE) - Server (OS): Windows 10 to 11 Pro+ incl. Windows Server 2016 to 2025 Standard+, x86-64 Ubuntu Linux 22.04 LTS+ - Client: Web Browser, Installed Application - DBMS: SQLite (Encrypted with AES-256) - Protocol: HTTP(S), SUNAPI, WAVE REST API, VAPIX, i-PRO CGI, Onvif, SNMP (v2c) - Requirements: Intel i3-10100, 16GB RAM, SSD with at least 1GB of Free Space, 100Mbps+ Wired Network

Features	Dashboard	Location, Server, Camera, Update, License, Life cycle
	Widget	Server, Storage, Camera, Update, License, Life cycle, Notification
	Health Monitor (Server & Storage, Camera)	Hanwha Vision Camera & NVR (SUNAPI v2.6.0+ via HealthPro Bridge or D2C), 3rd Party Camera (VAPIX v1.0+, i-PRO CGI 1.14+, Onvif via HealthPro Bridge), WAVE VMS (v5+ via HealthPro Bridge or WAVE Sync account)
	Policy Management	Auto Software (Firmware) Update, Auto Image Health Check
	Life cycle Management	Hanwha Vision Camera w/ STEP Code
	License Management	Hanwha Vision Camera, 3rd Party Camera (AXIS, i-PRO, Onvif)
	Task Management	Create / Assign / Resolve 10 Types of Tasks: Camera Disconnected, Camera IP Conflict, Authentication Issue, Network Issue, Server Certification Error, Server Conflict, Server Failure, Storage Issue, Device Disconnected, Image Health Issue
	Notification	Notification Center, Email, Web Push, In-app
	Remote Control	Hanwha Vision, AXIS, i-PRO, Onvif Camera: Stream & Codec, Motion & Object detec tion, Password, Focus, Bestshot, SUNAPI Command, Reboot & Power Cycling w/ Allied Telesis PoE
	Logs	User, Device, Task, Health, Resource
	Report	Automated Summary Reports via Email, CSV Download of Data Lists in All Menus
	Map View	Google Map
Data *No video & images are stored on the cloud platform.	Personal Information	Name, Email, Role, Phone (Optional), Photo (Optional)
	Device Information	Online Status, Manufacture, Model, Serial Number, Software Version, Device Name, Network Information, Live Image, Flash Memory & Record Status, CPU & RAM Usage, Open Plaform Apps Status, AI Apps Status, Warranty, Power Usage, VMS & NVR Record Status, Image Health Status
	Logs (reprocess device information)	Event / Type, Time, User / Device information
Cybersecurity	Stored Data (DB) Protection	Database Encryption and Access Control
	Data Transmission Protection	TLS-based Encrypted Communication
	Server Protection	Security Patching, Access Control, and Enhanced Authentication
	Network Protection	VPC, Security Groups, and Firewall Policy Implementation
	Managed Security	24/365 from a Certified Professional Company
High Availability	Redundancy	Redundant Configuration of Servers and Services
	Data Backup	Regular Backups and Disaster Recovery Policies in Place

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NETWORK

VIDEO RECORDERS

CLOUD

PERIPHERALS

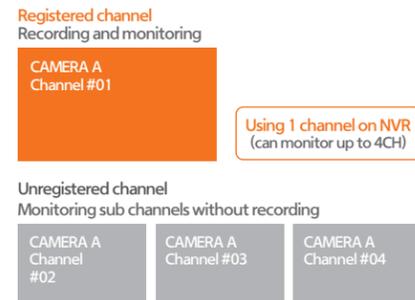ACCESS CONTROL

IP AUDIO

ANALOG

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.

Local   Web

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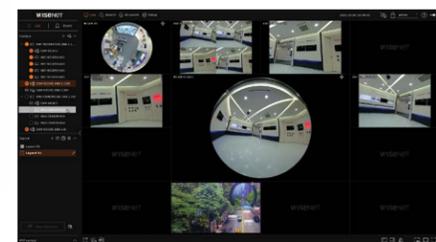
Code your own event action with SUNAPI command and Integrate with the Software Key

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.

❶ Code event action* and integrate with the Software key
* Simple focus, Day&Night (ICR), Alarm Out, etc.

Event trigger   Event action

❷ Click the Software key to initiate the event action

Click
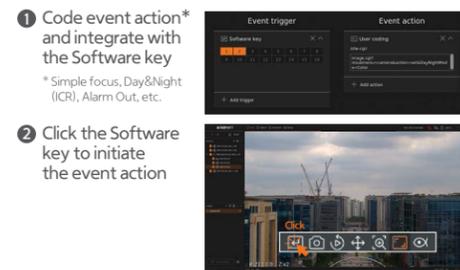
	XRN-6420DB4 64CH NVR with 12th gen. Intel® Processor	XRN-6420B4 64CH NVR with 12th gen. Intel® Processor	XRN-6420RB2 64CH NVR with 12th gen. Intel® Processor	XRN-6420B2 64CH NVR with 12th gen. Intel® Processor	XRN-3220B4 32CH NVR with 12th gen. Intel® Processor
OS	Linux				
Supported Compression	H.265, H.264, MJPEG				
Max. Recording Bit Rate	520Mbps	520Mbps	520Mbps	520Mbps	Distributed mode : Up to 520 Mbps Normal mode : Up to 300 Mbps [RAID mode] Normal : Up to 520 Mbps Degrade/ Rebuild : Up to 520 Mbps
Max # of Cameras	64CH	64CH	64CH	64CH	32CH
Network Camera Resolution	32MP~CIF				
HDD Slot	SATA 16ea(Max. 160TB, Non-RAID mode)	SATA 16ea(Max. 160TB, Non-RAID mode)	SATA 8ea(Max. 80TB, Non-RAID mode)	SATA 8ea(Max. 80TB)	SATA 16ea(Max. 160TB, Non-RAID mode)
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	iSCSI				
RAID	RAID-5/6(Array Size : 8 HDDs x 2 Array)	RAID-5/6(Array Size : 8 HDDs x 2 Array)	RAID-5/6(Single, 1 Array)	–	RAID-5/6(Array Size : 8 HDDs x 2 Array)
Hot Swap	Support	Support	Support	–	Support
Network Viewer Software	WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS				
Local Display	[Dual Display] HDMI 1: 3840 x 2160 (30Hz) HDMI 2: 1920 x 1080 (60Hz)				
Network Camera Protocol	SUNAPI, ONVIF				
Power Input	100~240 VAC ±10%: 50/60 Hz, 2.7A (Dual SMPS)	100~240 VAC ±10%: 50/60 Hz, 2.7A (Single SMPS)	100~240 VAC ±10%: 50/60Hz, 1.7A(Single SMPS)	100~240 VAC ±10%: 50/60Hz, 1.5A(Single SMPS)	100~240 VAC ±10%: 50/60Hz, 2.7A(Single SMPS)
Power Consumption	Max. 265W (904.2 BTU with HDD 16ea)	Max. 265W (904.2 BTU with HDD 16ea)	Max. 162W (553BTU with HDD 8ea)	Max. 143W (488BTU with HDD 8ea)	Max. 265W (904.2 BTU with HDD 16ea)
PoE Budget	–				
Additional Features	• N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view • ARB(Auto Recovery Backup) supported				

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	XRN-3220RB2 32CH NVR with 12th gen. Intel® Processor	XRN-3220B2 32CH NVR with 12th gen. Intel® Processor	XRN-1620SB1 16CH NVR	XRN-1620B2 16CH NVR	XRN-820S 8CH NVR
OS	Linux				
Supported Compression	H.265, H.264, MJPEG				
Max. Recording Bandwidth	Distributed mode : Up to 520 Mbps Normal mode : Up to 300 Mbps [RAID mode] Normal : Up to 520 Mbps Degrade/ Rebuild : Up to 520 Mbps	Distributed mode : Up to 520 Mbps, Normal mode : Up to 300 Mbps	140Mbps	140Mbps	120Mbps
Max # of Cameras	32CH	32CH	16CH	16CH	8CH
Network Camera Resolution	32MP~CIF				
HDD Slot	SATA 8ea(Max. 80TB, Non-RAID mode)	SATA 8ea(Max. 80TB)	SATA 4ea(Max. 24TB)	SATA 8ea(Max. 80TB)	SATA 2ea(Max. 12TB)
Record Mode	Normal, Dual Stream, Schedule(Continuous/ Event), Event (Pre/Post), Bookmark	Normal, Dual Stream, Schedule(Continuous/ Event), Event (Pre/Post), Bookmark	Normal, Dual Stream, Schedule(Continuous/ Event), Event (Pre/Post), Bookmark	Normal, Dual Stream, Schedule(Continuous/ Event), Event (Pre/Post)	Normal, Dual Stream, Schedule(Continuous/ Event), Event (Pre/Post)
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	iSCSI storage	iSCSI storage	–	–	–
RAID	RAID-5/6(Single, 1 Array)	–	RAID-1	–	RAID-1
Hot Swap	Support	–	–	–	–
Network Viewer Software	WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS	WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS	WAVE, SSM, Webviewer, Smart Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS	WAVE, SSM, Webviewer, Smart Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS	WAVE, SSM, Webviewer, Smart Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3'rd party VMS
Local Display	[Dual Display] HDMI 1: 3840 x 2160 (30Hz) HDMI 2: 1920x1080 (60Hz)	[Dual Display] HDMI 1: 3840 x 2160 (30Hz) HDMI 2: 1920x1080 (60Hz)	FHD : HDMI & VGA Dual monitor UHD : HDMI Single monitor	FHD : HDMI & VGA Dual monitor UHD : HDMI Single monitor	FHD : HDMI & VGA Dual monitor UHD : HDMI Single monitor
Network Camera Protocol	SUNAPI, ONVIF				
Power Input	100~240 VAC ±10%: 50/60Hz, 1.7A (Single SMPS)	100~240 VAC ±10%: 50/60Hz, 1.5A (Single SMPS)	100~240 VAC ±10%: 50/60Hz	100~240 VAC ±10%: 50/60Hz	100~240 VAC ±10%: 50/60Hz
Power Consumption	Max. 162W (553BTU with HDD 8ea)	Max. 143W (488BTU with HDD 8ea)	130W	130W	Max. 160W
PoE Budget	–	–	200W	–	100W
Additional Features	• N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view • ARB(Auto Recovery Backup) supported	• N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view • ARB(Auto Recovery Backup) supported	• PoE supported • N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view • ARB(Auto Recovery Backup) supported	• N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view • ARB(Auto Recovery Backup) supported	• PoE supported • N+1 failover supported • PTZ camera configuration and control • Dynamic layout • Virtual channel view

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	XRN-815S 8CH NVR	XRN-420S 4CH NVR	QRN-1630S 16CH NVR	QRN-830S 8CH NVR	QRN-430S 4CH NVR
OS	Linux				
Supported Compression	H.265, H.264, MJPEG				
Max. Recording Bit Rate	100Mbps	50Mbps	128Mbps	80Mbps	40Mbps
Max # of Cameras	8CH	4CH	16CH	8CH	4CH
Network Camera Resolution	12MP ~ CIF	8MP ~ CIF	8MP ~ CIF	8MP ~ CIF	8MP ~ CIF
HDD Slot	SATA 2ea(Max. 20TB)	SATA 1ea(Max. 6TB)	SATA 2ea(Max. 20TB)	SATA 1ea(Max. 6TB)	SATA 1ea(Max. 6TB)
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	Alarm Input, Video Loss, Camera Event (Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event	Alarm Input, Video Loss, Camera Event (Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event	Alarm Input, Video Loss, Camera Event (Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event, User Event	Alarm Input, Video Loss, Camera Event (Sensor, MD, Video Analytics, Defocus, Audio), Dynamic Event
Event Action	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out
External Storage	–				
RAID	–				
Hot Swap	–				
Network Viewer Software	WAVE, SSM, Webviewer, Smart Viewer, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI) for integration to 3'rd party VMS				
Local Display	HDMI1: 3840x2160(30Hz), HDMI2: 1920x1080(60Hz)	HDMI, VGA	HDMI1: 3840x2160(30Hz), HDMI2: 1920x1080(60Hz)	HDMI1: 3840x2160(30Hz), HDMI2: 1920x1080(60Hz)	HDMI
Network Camera Protocol	SUNAPI, ONVIF				
Power Input	100~240 VAC ±10%: 50/60Hz	100~240 VAC ±10%: 50/60Hz	100~240 VAC ±10%: 50/60Hz	54VDC / 1.55A	100~240 VAC ±10%: 50/60Hz
Power Consumption	Max 165W (563 BTU with 2HDD, PoE On)	Max 67W (1HDD, PoE On)	Max. 200W(682 BTU with 2HDD, PoE ON)	Max 84W (287 BTU with 1HDD, PoE ON)	Max 52W (1HDD, PoE On)
PoE Budget	100W	50W	130W	65W	35W
Additional Features	• PoE supported • N+1 failover supported • PTZ camera configuration and control • Dynamic layout • ARB(Auto Recovery Backup) supported	• PoE supported • N+1 failover supported • PTZ camera configuration and control • ARB(Auto Recovery Backup) supported • Easy configuration(P2P(QR code))	• PoE supported • N+1 failover supported • PTZ camera configuration and control • ARB(Auto Recovery Backup) supported • Easy configuration(P2P(QR code))	• PoE supported • N+1 failover supported • PTZ camera configuration and control • ARB(Auto Recovery Backup) supported • Easy configuration(P2P(QR code))	• PoE supported • N+1 failover supported • PTZ camera configuration and control • ARB(Auto Recovery Backup) supported • Easy configuration(P2P(QR code))

Wisenet Viewer

Costless yet powerful NVR·DVR Management Software

Camera
Analog Camera / Network Camera

Wisenet Viewer
PC

Recorder
DVR / NVR

Real–Time Monitoring

Web Page

Video/Image

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
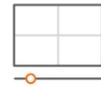
Customizable channel layout & Timeline

Easy monitoring with **Fisheye Dewarping**

View Mode
① Single View
② Panoramic
③ Quad View

Intelligent monitoring powered by **AI Search**
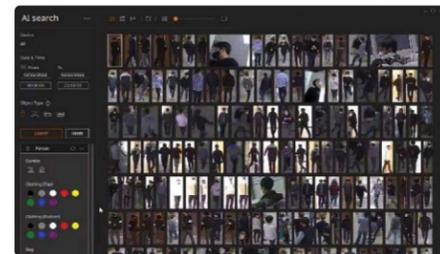
Wisenet WAVE

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

Encoder

	SPE-1630 16CH Encoder	SPE-420 4CH Encoder
Max. # of Cameras	16	4
Supported Compression	H.265, H.264 (MPEG-4 Part 10 / AVC) : Main / Baseline / High, MJPEG	H.265, H.264 (MPEG-4 Part 10 / AVC) : Main / Baseline / High, 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(N),12fps/CH(P) 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)
Audio I/O	4 Line Input / 1 Line Output	4 Line Input / 1 Line Output
RS-485	Support	Support
Alarm I/O	16 Input/ 4 Output(1 NO/COM/NC, 3 NO/COM)	4 Input / 2 Output(1 NO/COM/NC, 1 NO/COM)
Application Programming Interface	ONVIF profile S, SUNAPI (HTTP API)	ONVIF profile S, SUNAPI (HTTP API)
Power	MAX: 20W (12V, 1.67A)	MAX: 5W (12V, 0.417A)

Decoder

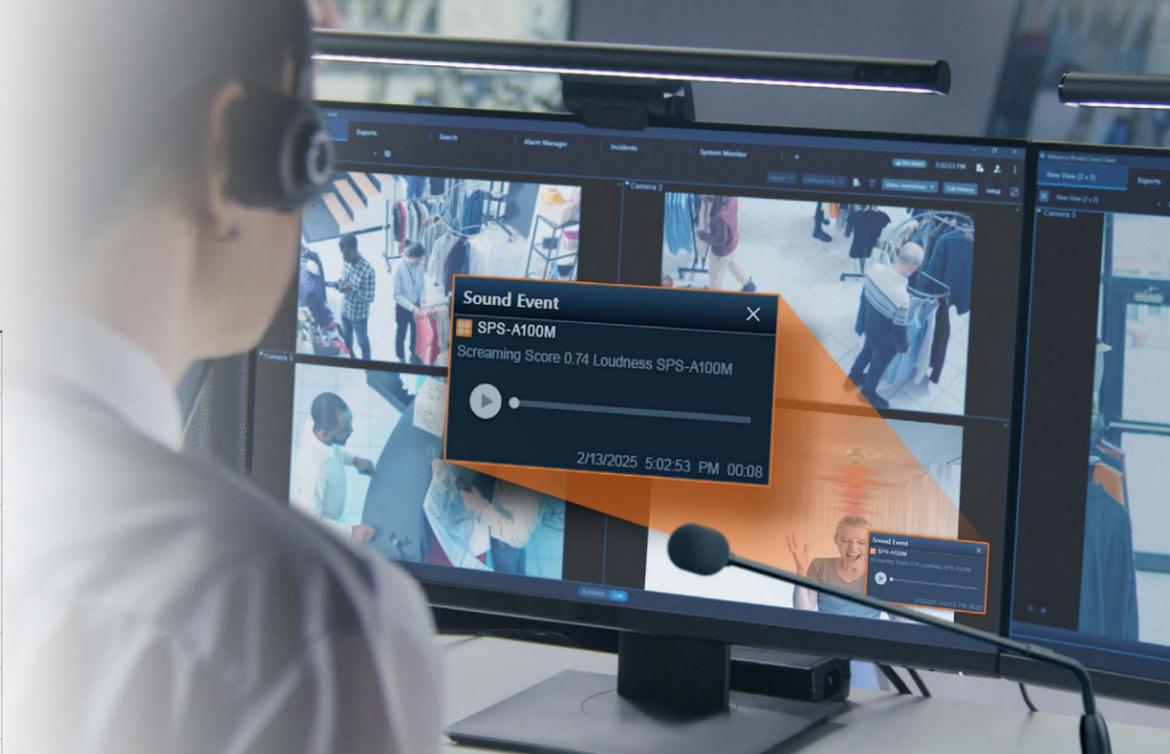|	SPD-152 1 Monitor Decoder
Video Out	HDMI (2ea)
Resolution	HDMI#1 1EA (up-to 4K), Audio support HDMI#2 1EA (up-to 1080p), Audio not suppo
Display	[Max. Decoding Performance] 8M@60fps, 12ch*2MP@30fps [Division/Monitor] Clone mode : (HDMI#1) Max. 64, Expand mode : (HDMI#1) Max. 36, (HDMI#2) Max. 25
Power	12VDC, PoE (IEEE802.3af)

AI Box

	AIB-800 AI Box
Inputs	Max. 8CH
Resolution	CIF ~ 32MP
Protocols	SUNAPI, ONVIF
Analytics	**Classified object type** : Person/Face/Vehicle/License plate, **Attributes** : Vehicle (Type:car/bus/truck/motorcycle/bicycle) **Support Bestshot** **Analytics events based on AI engine** : Motion Detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) * Some of the video analytics only works with people/vehicle detection **Analytics events** : Virtual area(Appear/Disappear) **Business Intelligence (Based on AI engine)** : People counting, Vehicle counting, Queue management, Heatmap
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTSP, NTP, HTTP, DHCP (Server, Client), SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, HTTPS, SNMP, ONVIF (Profile-S), SUNAPI(Server, Client), SRTP
DDNS	Hanwha Vision DDNS
Max Manipulated Streams	80 Streams (10 Streams per 1CH)
IP Version	IPv4/v6
Security	IP address filtering, User access Log, 802.1x, Encryption, Device certificate(Hanwha Vision Root CA)
OS	Windows 11/10, macOS 10.13
Web Browser	Google Chrome, Microsoft Edge, Mac Safari
Viewer/CMS	WebViewer, WAVE, SSM, Genetec, Milestone Support SDK/CGI(SUNAPI) for interworking with 3'rd party VMS
Ethernet	RJ-45 1ea (1Gbps)
Alarm	(1) In(8EA, Terminal Block), (2) Alarm Reset(1EA), (3) Out(4EA, Terminal Block) – Relay Out1(NO/NC/COM) – Relay Out2~4(NO/COM)
USB	1EA(Rear 1 x USB 3.0) for DEBUG
Log List	Max. 3,000 (System 1,000, Access 1,000, EVENT 1,000)
CPU	NVIDIA ORIN NX 8GB (SOM)
Operating Temperature / Humidity	+0°C~+40°C(+32°F~+104°F), 20% ~ 85% RH
Power Consumption	100 ~ 240 VAC ± 10%; 50/60 Hz, 12V, 4A Adaptor, 28W
Color / Material	Black / Metal
Product Dimensions / Weight	300 x 47.6 x 240.9 mm (11.81 x 1.87 x 9.48 inch), 1.39kg

Audio Beacon

|	SPS-A100M Audio Beacon
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360
Max. Framerate	Static image video H.265/H.264: Max. 10fps MJPEG: Max. 5fps
Video Out	USB: Micro USB Type C, setting true north point using Wisenet installation
Analytics	**AI Sound Classification** • Classified sound type: Crashing glass, Screaming, Vehicle horn, Tire screech Extreme decibel detection • Event metadata: Sound type, Sound direction, Confidence, Timestamp, Best sound(audio file), dB(± 10dB) • Sound direction(Celling mounting: ± 15 degrees)
Alarm I/O	2 configurable I/O ports
Alarm Triggers	Analytics, Network disconnect, Alarm input, App event(Sound classification), Time schedule, MQTT subscription, Case tampering
Alarm Events	**When alarm trigger occurred** • File upload(audio): e-mail/FTP • Notification: e-mail • Alarm output • Handover: PTZ preset, send message by HTTP/HTTPS/TCP • Audio clip playback(6MB, WAV) • MQTT: publication • LED • Speaker
Audio Streaming	Two-way/one-way selectable, Full duplex, Echo cancellation, and noise reduction
Audio In	Five built-in MEMS MICs
Audio Out	**Built-in speaker** • Max. Sound Pressure Level 90dB at 1m(3.28ft) • Frequency Range: 144Hz~20kHz
Light Type	LED Ring(Green, Blue, Red, Pink, Sky blue, Purple), for event action
Audio Compression	G.711 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz
Application Programming Interface	ONVIF Profile S, SUNAPI(HTTP API) Wisenet open platform – AI Sound Classfication pack included
Operating Temperature / Humidity	−20°C ~ +55°C (−4°F ~ +122°F) / Less than 90% RH
Input Voltage	PoE+(IEEE802.3at, Class4)
Power Consumption	PoE+: Max 18.5W, typical 8.2W
Product Dimensions / Weight	215.1(W)x135.1(D)x52.8(H)mm(8.47"x5.32"x2.08") / 973g(2.15 lb)

Extreme Decibel Detection

Screaming

Glass Break Detection
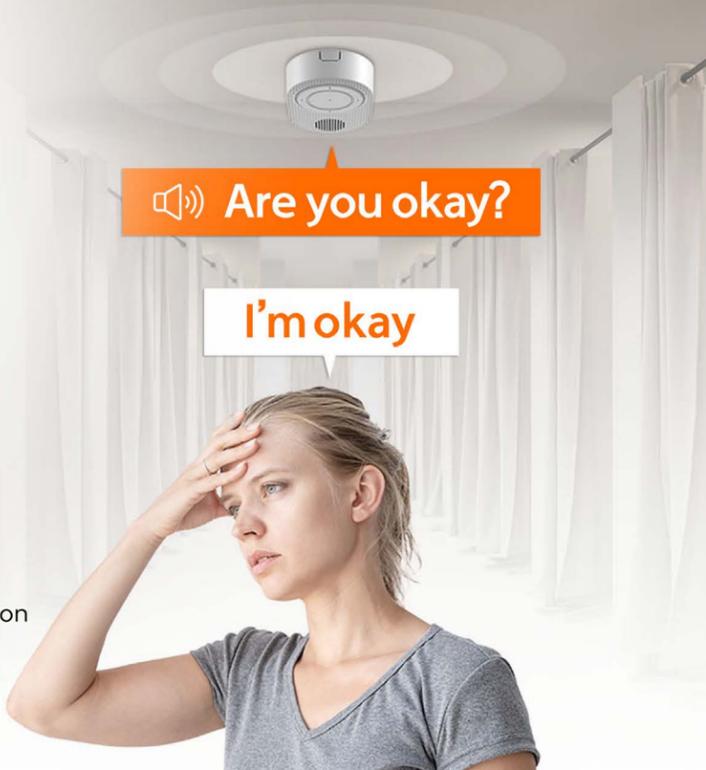
Wisenet SSM

Ideal choice for integrated monitoring

Wisenet SSM (Smart Security Manager) is a video monitoring software that maximizes the operational efficiency of Wisenet products (Network camera, Encoder, DVR and NVR). Hanwha Vision provides video surveillance products and also in-house developed Wisenet software to monitor whole systems. It provides seamless system integration and central monitoring with cost effectiveness and reliability.
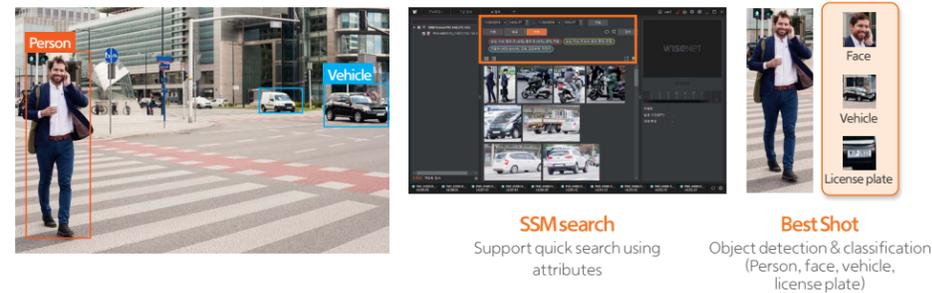

Cost Competitiveness	High Reliability	Convenient Operation
Offer major features of video surveillance in reasonable price	Superb device compatibility offered as a VMS of device manufacturer	A single manufacturer providing unified user experience
One time licensing cost (No cost for upgrades and maintenance)	Integrated operation of H/W and S/W for efficient maintenance and management	Be the first to use the latest device features
High quality VMS features for the price	Dashboard that can monitor device status	Offer various solutions for user environments

AI video search

Connect Hanwha Vision AI cameras to SSM for various search features adopting AI algorithms.

• Best Shot search using unique attributes

System operators can utilize SSM's 'AI video search' feature to easily search specific events in the video by designating distinctive attributes of objects such as persons, faces, and vehicles. If a user searches specific attributes such as red motorcycle or a man wearing short pants, the best still cuts (Best Shot) of the classified objects in the video will be retrieved. Best Shots can be used as forensic data for accident investigations, playing back video that includes Best Shots.

SSM search
Support quick search using attributes

Best Shot
Object detection & classification (Person, face, vehicle, license plate)

Parking management solution

Connect ANPR cameras to Wisenet SSM for various parking management features.

• Vehicle management & event search

Hanwha Vision SSM's parking management solution utilizes ANPR (Automatic number plate recognition) cameras off ering real-time parking entrance/exit monitoring. Users can register and manage vehicles without additional parking management software, while simple search feature quickly searches and retrieves vehicle footage.
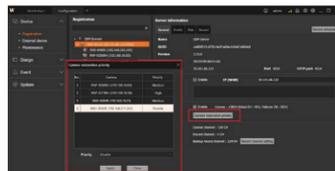

Stable monitoring

SSM provides safe and stable monitoring environment through Failover.

• Vehicle management & event search

Failover priority (High, medium, never) can be confi gured for each channel. If a camera is failed, high priority cameras will be failed over at fi rst. Users can record and save important footages without loss of data.

XRP-4310DB4
128CH Server NVR (SSM Appliance)

XRP-4210B4
72CH Server NVR (SSM Appliance)

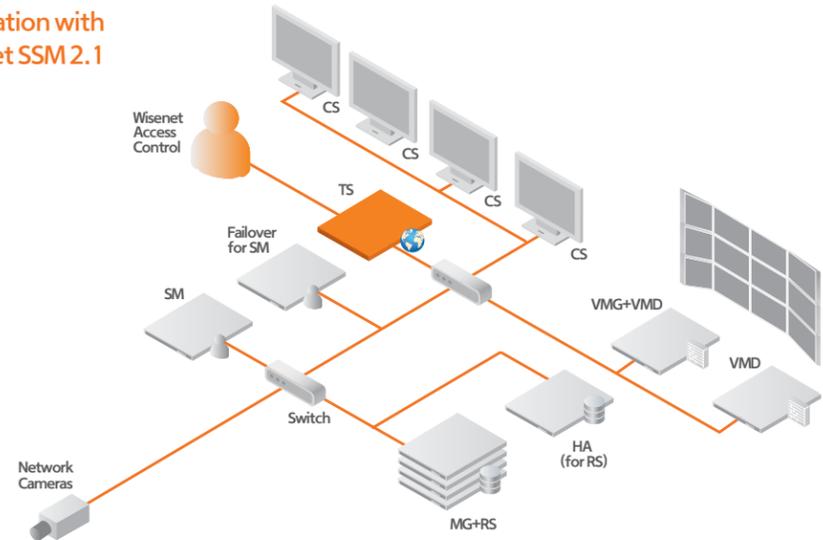|	XRP-4310DB4	XRP-4210B4
OS	Windows 10 IoT Enterprise LTSC (SSM preinstalled)	
Supported Compression	H.265, H.264, MJPEG, WiseStream(H.264, H.265)	
Max. Recording Bit Rate	400Mbps	
Max # of Cameras	128CH(network)	72CH (If clustering, 132CH)
Network Camera Resolution	CIF ~ 32MP	
HDD Slot	SATA 16ea (3.5" 16ea Hot Swap - Volume 2ea) Enterprise HDD (6TB,8TB,10TB)	
Record Mode	Normal, Schedule (Continuous / Event), Event (Pre / Post), Event Profile, ARB, Dual-Track	
Event Trigger	Video loss, Camera event(Sensor, MD, Passing, Entering, Exiting, Disappearing (Appearing),Tampering, Tracking, Face Detection, Audio Detection, ANPR, Bestshot), AI Event (Face, Appearance, Face mask, Vehicle)	
Event Action	Instant Viewer, Preset, Alarm Out, Pop-up, Sound and E-mail notification	
RAID	RAID 1 / 5 / 6 / 10 / 50	
Hot Swap	Yes	
Network Viewer Software	SSM Client, Wisenet Mobile	
Local Monitor	Dual if Full HD monitor, Single if UHD monitor	
Network Camera Protocol	Wisenet, ONVIF	
Power Input	100 ~ 240VAC, 50 ~ 60Hz	
Power Consumption	285W Dual	285W Single
Additional Features	• SSM Preinstalled • Redundant Power Support • ARB (Auto Recovery Backup) redundancy supported • AI Event (Face, Appearance, Face mask, Vehicle) Trigger	• SSM Preinstalled • ARB (Auto Recovery Backup) redundancy supported • AI Event (Face, Appearance, Face mask, Vehicle) Trigger

Wisenet ACS

Wisenet Access Software 2.4

Wisenet access Software is access control man-agement software integrated with Wisenet SSM, WAVE for Total security solution. It is highly scal-able up to unlimited doors system and has robust software architecture.

ACS Monitoring	Fire Alarm	Lift Control

Key Features

- **Interlocking**
  Control the locking of two or more doors
  If one door is opened or unlocked, the remaining doors refuse access

- **Mustering Report**
  Provide information of the occupants in the fire grouping area based in Fire event

- **Visitor management**
  Providing visitor management features : Visitor/Host information, Visit history,
  Check in/out and archive

- **LDAP integration**
  Synchronize Active Directory "Security group" users to have the same "Access Group",
  "Company", "Department" in ACS

- **Lift access control**
  Provide Access control for LIft up to 12floors per output board (V300, X300)

- **Guard Tour**
  Provide Guard Tour : Sequential, Time Bound types

Configuration	Monitoring	Mustering Report

Integration with Wisenet SSM 2.1

Hanwha Vision WACS is offered solely within the EMEA region.

Access Control	Device auto discovery Cardholder management Batch uploads Card (s) pre–registration Lift Control Role based ACS Device maintenance	Unlimited access groups, Time schedules Interlocking Area / Zone management Biometric readers (FP, Face) Visitor Management Global APB, I/O Guard Tour
Monitoring	Real time access events & alarm monitoring Graphic maps Remote door management (Close / Open) I/O monitoring	Mustering Configure Event Specific Instructions for Operators Event Filtering for Monitoring Control Door Monitoring/ Management permissions per User
Card Design and Printing	Create multiple design templates Auto–fill card holder data from system database Print cards	
Fire Groups	Create fire–groups for each fire sensor input	
Advanced Reporting	Extensive reporting options Export to multiple formats (excel, pdf, word etc.) Meal Count Report	
Video Integration	Seamless Integration with Hanwha Vision's VMS in event monitoring Review video of the access & alarms events Real–time access & alarms events notification to Wisenet WAVE, SSM	
Maintenance	User group & user privileges Manual & scheduled database backup Database restore	Data export & import Custom fields Auditing & user activity logs
System	Unlimited doors Very simple and intuitive user interface Highly scalable	

Reader

	Signo 20/20K/40/40K Card / Keypad Reader	U90 Long Range UHF Reader	BioEntry W2 Fingerprint / Card Reader	BioMini Fingerprint Scanner
Credential Compatibility	125KHz/ 13.56Mhz	902 ~ 928 MHz	13.56Mhz	–
Communication	Wiegand/Clock & Data/BLE/NFC	Wiegand	Wiegand	USB 2.0
Compatible Access Cards	Standard Profile : iClass SE/SEOS, MIFARE (Classic/SIO), HID Prox, EM4102, MIFARE DESFire EV1/EV2 (CSN/SIO) SEOS Profile : iClass SEOS	UHF Card	iCLASS SE/SEOS, MIFARE (Classic), DESFire EV1 CSN)	–
Keypad	No / Yes (6x2) / No / Yes (4x3)	–	–	–
Operating Voltage Range	12V DC	12V DC or 24V DC	12V DC	USB 2.0
Operating Temperature	−35℃ ~ 66℃ (−31℉ ~ 150℉)	−35℃ ~ +65℃ (−31℉ ~ +150℉)	−20℃ ~ +50℃ (−4℉ ~ +122℉)	−10℃ ~ +50℃ (+14℉ ~ +122℉)
Ingress Protection	IP65	IP65	IP67	–
Impact Protection	–	–	IK08	–
Panel Connnection	Pigtail	Pigtail	Pigtail	–
Color	Black with silver	Black	Dark Gray	Dark Gray
OSDP	Support	–	–	–
Max. User	–	–	500,000 (1 : 1), 100,000 (1 : N)	–
Max. Fingerprint Template	–	–	1,000,000 (1 : 1), 200,000 (1 : N)	–
Ethernet	–	–	10/100Mbps	–

Controller

	X1100 Hybrid controller	X100/X200/X300 Expansion Reader / Input / Output Module
Communication	Ethernet (10/100) / RS–485	RS–485
Reader interface	2ea	2ea / – / –
Max. expansion board	32ea	–
Max. card holders	250,000	–
Max. Event buffers	50,000	–
Input port	7ea	7ea/ 19ea/ 3ea
Output port	4ea	4ea/ 2ea/ 12ea
Operating Temperature	0℃ ~ 70℃ (32℉ ~ 158℉)	0℃ ~ 70℃ (32℉ ~ 158° F)
PoE	–	–
Color	Gray	Gray
OSDP	Yes	Yes

Card

	iCLASS SEOS (Elite) 13.56MHz	Mobile Subscription	UHF Card 902~928 MHz Card
	• OS 8K Memory 13.56MHz H10301 26bit card, with rolling card serial number	• Bluetooth/NFC via mobile device (Android, IOS)	• Long range card (3~5m)
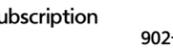
Peripheral

	SSA–X300 Power Package
Controller/ Interface On Board	Max. 2ea Boards in enclosure
Input Power	100 ~ 240V AC (50Hz/60Hz) / 2.0A
Power Consumption	13.5V ± 5%, 4.7A, (Strobe, Horn 12.5V DC ± 5%)
Charging Current	700mA
Back up Battery	12V, 18Ah, rechargeable
SMPS Status Transmission	AC loss, Battery fail (Non battery)
AC Input Protection	by Fuse in input port
Operation Temperature	0℃ ~+45℃ (+32℉ ~+113℉)
Case Lock	Lock on front door with keys
Dimension (mm)	W 410 x H 410 x D 97mm (16.14" x 16.14" x 3.82")

NETWORK / VIDEO RECORDERS / CLOUD / PERIPHERALS / ACCESS CONTROL / IP AUDIO / ANALOG

IP Audio System

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

🔊 Please stay away from the fence

☀ Motion Detection

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-C100B / SPA-C100W 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	100dB	100dB	101dB	124dB
Frequency Range (−10dB)	120Hz~20kHz	120Hz~20kHz	120Hz~20kHz	120Hz~20kHz	650Hz~5.3kHz
Sensitivity (1Watt)	90dB	90dB	90dB	91dB	111dB
Power	PoE/ PoE+				
TTS	English(US, UK), German, French, Spanish, Russian				
Plenum Rating Certifiate	UL2043		–		

IP Audio Module

SPA-D1000
IP Audio Module

Amplifier	Built in 10W Class D
Power	PoE (IEEE 802.3 af type 1 Class 3), PoE+(IEEE 802.3 at type 2 Class 4)
Multi-source Dynamic PA control	Multi-source up to 48 (Multicast) (Audio 24CH + Mic 24CH) Up to 256 Zone Control (Multicast) Up to 20 Zone Control (Unicast) Up to 255 Groups
TTS	English(US, UK), German, French, Spanish, Russian

IP Audio Server

SPA-S1000
IP Audio Server

Ethernet	10/100 Base-T
Power	AC 120~240V, 50/60Hz, 10W DC 24V, 350mA
Multi-source Dynamic PA control	Multi-source up to 48 (Multicast) (Audio 24CH + Mic 24CH) Up to 256 Zone Control (Multicast) Up to 20 Zone Control (Unicast) Up to 255 Groups

SIP Microphone

SPA-M2000
SIP Microphone

Max input Level	AUX (Input Volume Max) −7dBV
Supported Protocols	IPv4, HTTP, HTTPs, SIP, mDNS, DNS, NTP, TCP, UDP, DHCP, ARP, ICMP
Power	Max.12W, DC24V PoE (IEEE 802.3 af type 1 Class 3)

IP Audio Bridge

SPA-B1000
IP Audio Bridge

Power	PoE (IEEE 802.3 af type 1 Class 3) DC 24V, Max 10W
Supported Audio Format	File Streaming : WAV, MP3 in mono/stereo from 64 kbps to 320 kbps. Sampling rate from 16 kHz up to 48 kHz
Supported Protocols	IPv4, HTTP, HTTPs, mDNS, DNS, NTP, TCP, UDP, DHCP, ARP, ICMP

	HCB-7000A 4MP Box Camera	HCO-7070RA 4MP IR Bullet Camera	HCO-7010RA/20RA/30RA 4MP IR Bullet Camera	HCD-7070RA 4MP IR Dome Camera	HCD-7010RA/20RA/30RA 4MP IR Dome Camera
Imaging Device	1/3" CMOS				
Resolution	2560 x 1440				
Min. Illumination	Color : 0.16Lux (F1.2) B/W : 0.009Lux (F1.2)	Color : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Color : 0.26Lux (F1.8) (HCO-7010R) 0.27Lux (F2.0) (HCO-7020R/7030R) B/W : 0Lux (IR LED on)	Color : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Color : 0.26Lux (F1.8) (HCD-7010RA) 0.27Lux (F2.0) (HCD-7020R/7030RA) B/W : 0Lux (IR LED on)
Focal Length	–	3.2~10mm (3.1x) varifocal	2.8mm fixed (HCO-7010R) 4.0mm fixed (HCO-7020R) 6.0mm fixed (HCO-7030R)	3.2~10mm (3.1x) varifocal	2.8mm fixed (HCD-7010RA) 4.0mm fixed (HCD-7020RA) 6.0mm fixed (HCD-7030RA)
Angular Field of View	–	H : 93.48°　(Wide) ~ 29.44°　(Tele) V : 50.47°　(Wide) ~ 16.64°　(Tele) D : 112.53°　(Wide) ~ 33.7°　(Tele)	H : 107.48° / V : 59.67° / D : 122.01° (HCO-7010RA) H : 78.22° / V : 41.21° / D : 87.91° (HCO-7020RA) H : 49.01° / V : 27.61° / D : 55.6° (HCO-7030RA)	H : 93.48°　(Wide) ~ 29.44°　(Tele) V : 50.47°　(Wide) ~ 16.64°　(Tele) D : 112.53°　(Wide) ~ 33.7°　(Tele)	H : 107.48° / V : 59.67° / D : 122.01° (HCD-7010RA) H : 78.22° / V : 41.21° / D : 87.91° (HCD-7020RA) 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) 25m (82.02ft) (HCO-7020R) 30m (98.43ft) (HCO-7030R)	20m (65.62ft)	20m (65.62ft) (HCD-7010RA) 25m (82.02ft) (HCD-7020RA) 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 (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron) RS-485 : Samsung T, Pelco D/P	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron)			
Operating Temperature	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-30℃ ~ +55℃ (-22℉ ~ +131℉) * Start up above -10℃ (+14℉)	-30℃ ~ +55℃ (-22℉ ~ +131℉) * Start up above -10℃ (+14℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)
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 × H 68.4 × 92.7mm (2.35" × 2.69" × 3.65") 186g (0.41lb)	ø 78 x 259.8mm (ø 3.07" x 10.23") (Without sunshield) 914g (2.02lb)	ø 70 x 246mm (ø 2.76" x 9.69") (Without sunshield) 670g (1.48lb)	ø 119.8 x 98.5mm (ø 4.72" x 3.88") 320g (0.71lb)	ø 110.1 x 86.1mm (ø 4.33" x 3.39") 240g (0.53 lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable)	Video Transmission up to 500m (5C2V Coaxial Cable)	Video Transmission up to 500m (5C2V Coaxial Cable)	Video Transmission up to 500m (5C2V Coaxial Cable)	Video Transmission up to 500m (5C2V Coaxial Cable)

	HCV-7070RA 4MP IR Vandal Dome Camera	HCV-7010RA/20RA/30RA 4MP IR Vandal Dome Camera	HCB-6001 2MP Box Camera	HCB-6000 2MP Box Camera	HCO-6080R 2MP 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) B/W : 0Lux (IR LED on)	Color : 0.26Lux (F1.8) (HCV-7010R) 0.27Lux (F2.0) (HCV-7020R/7030R) B/W : 0Lux (IR LED on)	Color : 0.09Lux (F1.2) B/W : 0.009Lux (F1.2)	Color : 0.09Lux (F1.2) B/W : 0.009Lux (F1.2)	Color : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)
Focal Length	3.2~10mm (3.1x) varifocal	2.8mm (HCV-7010R) 4.0mm (HCV-7020R) 6.0mm (HCV-7030R)	–	–	3.2~10mm (3.1x) motorized varifocal
Angular Field of View	H : 93.48°(Wide) ~ 29.44°(Tele) V : 50.47°(Wide) ~ 16.64°(Tele) D : 112.53°(Wide) ~ 33.7°(Tele)	H : 107.48° / V : 59.67° / D : 122.01° (HCV-7010R) H : 78.22° / V : 41.21° / D : 87.91° (HCV-7020R) H : 49.01° / V : 27.61° / D : 55.6° (HCV-7030R)	–	–	H : 110.2°(Wide) ~ 32°(Tele) V : 55.4°(Wide) ~ 18°(Tele) D : 128.4°(Wide) ~ 36.6°(Tele)
Pan / Tilt / Rotate	0° ~ 350° / 0° ~ 63° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	–	–	–
IR Viewable Length	30m (98.43ft)	20m (65.62ft) (HCV-7010R) 25m (82.02ft) (HCV-7020R) 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 (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron)	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron)	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol), RS-485 : Samsung T, Pelco D/P, Panasonic, Bosch , Honeywell, Vicon, GE, AD	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol), RS-485 : Samsung T, Pelco D/P, Panasonic, Bosch , Honeywell, Vicon, GE, AD	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)
Operating Temperature	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-30℃ ~ +55℃ (-22℉ ~ +131℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-30℃ ~ +60℃ (-22℉ ~ +140℉)
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	ø 137 × 106.1mm (ø 5.39" × 4.18") 715g (1.58 lb)	ø 120.3 x 91.7mm (ø 4.74" x 3.61") 510g (1.12lb)	W 130.9 × H73.1 × D 67.2mm (5.15" × 2.88" × 2.65") 287g (0.63 lb)	W 68.4 × H 59.6 × D 92.7mm (2.69" × 2.3" × 3.65") 186g (0.41 lb)	ø 78 x 259.8mm (ø 3.07" x 10.23") (Without sunshield) 948g (2.09lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus

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	HCO-6070R 2MP IR Bullet Camera	HCO-6020R 2MP IR Bullet Camera	HCD-6080R/6070R 2MP IR Dome Camera	HCD-6020R 2MP IR Dome Camera
Imaging Device	1/2.8" CMOS			
Resolution	1920 x 1080			
Min. Illumination	Color : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)	Color : 0.17Lux (F1.6) B/W : 0Lux (IR LED on)	Color : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)	Color : 0.17Lux (F1.6) B/W : 0Lux (IR LED on)
Focal Length	3.2~10mm (3.1x) varifocal	4mm fixed (F1.6)	3.2~10mm (3.1x) varifocal	4mm fixed (F1.6)
Angular Field of View	H : 110.2°(Wide) ~ 32°(Tele) V : 55.4°(Wide) ~ 18°(Tele) D : 128.4°(Wide) ~ 36.6°(Tele)	H : 87.6° / V : 46.4° / D : 104.5°	H : 110.2°(Wide) ~ 32°(Tele) V : 55.4°(Wide) ~ 18°(Tele) 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	8 Zones	8 Zones	8 Zones
Alarm I/O	0/1	–	0/1	–
Protocol	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)			
Operating Temperature	-30℃ ~ +55℃ (-22℉ ~ +131℉) *Start up above -10℃ (+14℉)	-30℃ ~ +55℃ (-22℉ ~ +131℉) *Start up above -10℃ (+14℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)
Certification	IP66, IK10	IP66	–	–
Power Consumption	12VDC & 24VAC : Max 6W	12VDC : Max 5.4W	12VDC & 24VAC : Max 5.8W (HCD-6080R) 12VDC & 24VAC : Max 4.2W (HCD-6070R)	12VDC : Max 5.4W
Dimensions (WxHxD) / Weight	ø 78 x 259.8mm (ø 3.07" x 10.23") (Without sunshield) 914g (2.02lb)	ø 58.6 x 165.2mm (ø 2.31" x 6.5") (Without sunshield) 279g (0.62 lb)	ø 119.8 x 98.5mm (ø 4.72" x 3.88") 330g (0.73lb) (HCD-6080R) 320g (0.71lb) (HCD-6070R)	ø 110 x 86mm (ø 4.33" x 3.39") 227g (0.71lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus (HCD-6080R only)			

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	HCD-6010 2MP Dome Camera	HCV-6080R/6070R 2MP IR Vandal Dome Camera	SCB-6005 2MP Box Camera	SCO-6085R 2MP IR Bullet Camera
Imaging Device	1/2.8" CMOS			
Resolution	1920 x 1080			
Min. Illumination	Color : 0.27Lux (F2.0) B/W : 0.017 Lux (F2.0)	Color : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)	Color: 0.04Lux (F1.2, 1/30sec) BW: 0.004Lux (F1.2)	Color : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)
Focal Length	2.8mm fixed (F2.0)	3.2~10mm (3.1x) varifocal	–	3.2~10mm (3.1x) manual varifocal
Angular Field of View	H : 113.7° / V : 61.5° / D : 134.5°	H : 110.2°(Wide) ~ 32°(Tele) V : 55.4°(Wide) ~ 18°(Tele) D : 128.4°(Wide) ~ 36.6°(Tele)	–	H : 110.2°(Wide) ~ 32°(Tele) V : 55.4°(Wide) ~ 18°(Tele) 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)	WDR(120dB)	DWDR	DWDR
Digital Noise Reduction	SSNRIV			
Motion detection	Support			
Privacy Masking	8 Zones			
Alarm I/O	–	0 / 1	0 / 1	0 / 1
Protocol	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	ACP (AHD Coax Protocol) CVBS: Pelco-C (Coaxitron)	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron)
Operating Temperature	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-30℃ ~ +55℃ (-22℉ ~ +131℉) * Start up above -10℃ (+14℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉) / 0~90% RH	-30℃ ~ +55℃ (-22℉ ~ +131℉)
Certification	–	IP66, IK10	–	IP66, IK10
Power Consumption	12VDC : Max 3.6W	12VDC & 24VAC : Max 5.8W (HCV-6080R) 12VDC & 24VAC : Max 4.2W (HCV-6070R)	AC 24V / 0.37A (Max 3.6W) DC 12V / 0.32A (Max 3.5W)	24VAC: Max 5.4W, typical 3.4W 12VDC: Max 5.4W, typical 3.4W
Dimensions (WxHxD) / Weight	ø 110 x 86mm (ø 4.33" x 3.39") 221g (0.49lb)	ø 137 x 106.1mm (ø 5.39" x 4.18") 725g (1.60lb) (HCV-6080R) 715g (1.58lb) (HCV-6070R)	W 68.4 x H 59.6 x D 92.7mm (2.69" x 2.35" x 3.65") 186g (0.41lb)	ø 78 x 259.8mm (ø 3.07" x 10.23") 887g (1.95lb)
Additional Features	Video transmisstion up to 500m (5C2V Coaxial Cable), Simple Focus (HCV-6080R only)			

Analog Cameras

	SCO-6025R	SCD-6085R	SCD-6025R	SCV-6085R
	2MP IR Bullet Camera	2MP IR Dome Camera	2MP IR Dome Camera	2MP IR Vandal Dome Camera
Imaging Device	1/2.8" CMOS			
Resolution	1920 x 1080			
Min. Illumination	Color: 0.11Lux (F1.6, 1/30sec) BW: 0Lux (IR LED on)	Color: 0.11Lux (F1.6, 1/30sec) BW: 0Lux (IR LED on)	Color: 0.17Lux (F1.6, 1/30sec) BW: 0Lux (IR LED on)	Color: 0.11Lux (F1.6, 1/30sec) 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) V : 55.4° (Wide) ~ 18° (Tele) D : 128.4° (Wide) ~ 36.6° (Tele)	H : 87.6° / V : 46.4° / D : 104.5°	H : 110.2° (Wide) ~ 32° (Tele) V : 55.4° (Wide) ~ 18° (Tele) 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	SSNRIV			
Motion detection	Support			
Privacy Masking	8 Zones			
Alarm I/O	0 / 1			
Protocol	ACP (AHD Coax Protocol) CVBS: Pelco-C (Coaxitron)			
Operating Temperature	-30℃ ~ +55℃ (-22℉ ~ +131℉) / 0~90% RH * Start up should be done at above -10℃	-10℃ ~ +55℃ (+14℉ ~ +131℉) / 0~90% RH	-10℃ ~ +55℃ (+14℉ ~ +131℉) / 0~90% RH	-30℃ ~ +55℃ (-22℉ ~ +131℉) / 0~90% RH * Start up should be done at above -10℃
Certification	IP66	–	–	IP66, IK10
Power Consumption	DC 12V/0.45A (Max 5.4W)	AC 24V / 0.46A DC 12V / 0.45A	DC 12V/0.45A (Max 5.4W)	AC 24V / 0.45A DC 12V / 0.46A
Dimensions (WxHxD) / Weight	ø 58.6 x 165.2mm (ø 2.31" x 6.5") (without sunshield) 279g (0.62lb)	ø 119.8 x 98.5mm (ø 4.72" x 3.88") 320g (0.7lb)	ø 110 x 86mm (ø 4.33" x 3.39") 227g (0.5lb)	ø 137 x 106.1mm (ø 5.39" x 4.18") 715g (1.58lb)
Additional Features	Video transmisstion up to 500m (5C2V Coaxial Cable)			

Pentabrid DVR

	HRX-1635	HRX-1634	HRX-835A	HRX-435	HRX-434
	16CH Pentabrid DVR	16CH Pentabrid DVR	8CH Pentabrid DVR	4CH Pentabrid DVR	4CH Pentabrid DVR
OS	Linux				
Compression	H.265, H.264, MJPEG				
Signal Type	AHD(8MP, 5MP, 4MP, 1080p, 720p) HDTVI(8MP, 5MP, 4MP, 1080p, 720p) HDCVI(5MP, 4MP, 1080p, 720p) CVBS(NTSC/PAL)				
Inputs	Analog Camera – 16CH(1Vp-p 75ohm, BNC) Network Camera – 2CH (Up to 18CH)	Analog Camera – 16CH(1Vp-p 75ohm, BNC) Network Camera – 2CH (Up to 18CH)	Analog Camera – 8CH (1Vp-p 75ohm, BNC) Network Camera – 2CH (Up to 10CH)	Analog Camera – 4CH (1Vp-p 75ohm, BNC) Network Camera – 2CH (Up to 6CH)	Analog Camera –4CH(1Vp-p 75ohm, BNC) 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 (Sub Stream) 720p/CH or Higher : 640x368 Full fps, SD : up to SD Full fps * 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) HDMI: 3840 x 2160, 2560x1440, 1920x1080, 1280x1024, 1280x720 VGA: 1920x1080, 1280x1024, 1280x720, 1024x768	1x HDMI, 1x VGA (Dual monitor) HDMI: 3840 x 2160, 2560x1440, 1920x1080, 1280x1024, 1280x720 VGA: 1920x1080, 1280x1024, 1280x720, 1024x768	1x HDMI, 1x VGA (Dual monitor) HDMI: 3840 x 2160, 2560x1440, 1920x1080, 1280x1024, 1280x720 VGA: 1920x1080, 1280x1024, 1280x720, 1024x768	1x HDMI, 1x VGA (simultaneous output) HDMI: 3840 x 2160, 2560x1440, 1920x1080, 1280x1024, 1280x720 VGA: 1920x1080, 1280x1024, 1280x720	1x HDMI, 1x VGA (simultaneous output) HDMI: 3840 x 2160, 2560x1440, 1920x1080, 1280x1024, 1280x720 VGA: 1920x1080, 1280x1024, 1280x720
Audio In/Out	16 Line in (RCA 4 Line, Option : Audio Extension Cable) / 1 Line line out	4 Line in / 1 Line out	8 Lline in (RCA 4 Line, Option : Audio Extension Cable) / 1 Line line out	4 Line in / 1 Line out	4 Line in / 1 Line out
Alarm In/Out	In 16EA, Out 4EA – Relay Out 1 (NO/NC/COM) – Relay Out2~4(NO/COM)	In 16EA, Out 4EA – Relay Out 1 (NO/NC/COM) – Relay Out2~4(NO/COM)	In 8EA, Out 4EA – Relay Out 1 (NO/NC/COM) – Relay Out2~4(NO/COM)	In 4EA, Out 2EA – Relay Out 1 (NO/NC/COM) – Relay Out2(NO/COM)	In 4EA, Out 1EA – Relay Out 1 (NO/NC/COM)
N/W Camera Support	SUNAPI, ONVIF				
Additional Features	–				

LED Monitor

	SMT-4345	SMT-3240	SMT-2740
	43" UHD Monitor with 2 Windows PIP/PBP	32" LED Monitor	27'' LED Monitor
Screen Size	43''	32''	27''
Max. Resolution	3840x2160	3840 x 2160	3840 x 2160, 60Hz (UHD)
Brightness	300 cd/m²	300 cd/m²	300 cd/m²
Contrast Ratio	1200:1	1000:1	1200:1
Aspect Ratio	16:9	16:9	16:9
Viewing Angle(H/V)	178°/178°	178°/178°	178°/178°
Response Time	8ms	14ms	14ms
Interface	HDMI(2), DP(1), two windows PIP/PBP	HDMI(1), DP(1)	HDMI 2.0(2), DP1.4(1), two windows PIP/PBP
Audio In/Out	–/Speakers : 6Ω 2W x 2	–/Speakers : 6Ω 2W x 2	–/–
Built-in Speakers	Yes	Yes	Yes
VESA Mount(mm)	200x200	100x100	100*100
Power	AC 100~240V(50/60Hz)	AC 100~240V(50/60Hz)	100~240V AC
Stand	–	Yes	Yes
Tempered Glass Screen	–	–	–
Additional Features	–	–	–

	SMT-3215	SMT-2710	SMT-2431	SMT-2212
	31.5" LED Monitor	27'' LED Monitor	24" LED Monitor	22" LED Monitor
Screen Size	31.5''	27''	24''	22''
Max. Resolution	1920*1080, 60Hz (FHD)	1920 x 1080, 60Hz (FHD)	1920 x 1080	1920 x 1080
Brightness	300cd/m²	250 cd/m²	250 cd/m²	250 cd/m²
Contrast Ratio	3000:1	4000:1	4000:1	3000:1
Aspect Ratio	16:9	16:9	16:9	16:9
Viewing Angle(H/V)	178°/178°	178°/178°	178°/178°	178°/178°
Response Time	20ms	6.5ms	14ms	6.5ms
Interface	VGA(1), HDMI 1.4(1), DP 1.2(1)	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	–/–	–/–
Built-in Speakers	Yes	Yes	–	–
VESA Mount(mm)	100*100	100*100	100*100	100*100
Power	100~240V AC	100~240V AC	100V~240V AC	DC 12V 5A
Stand	Yes	Yes	Yes	Yes
Tempered Glass Screen	–	–	–	–
Additional Features	–	–	–	–

Controller

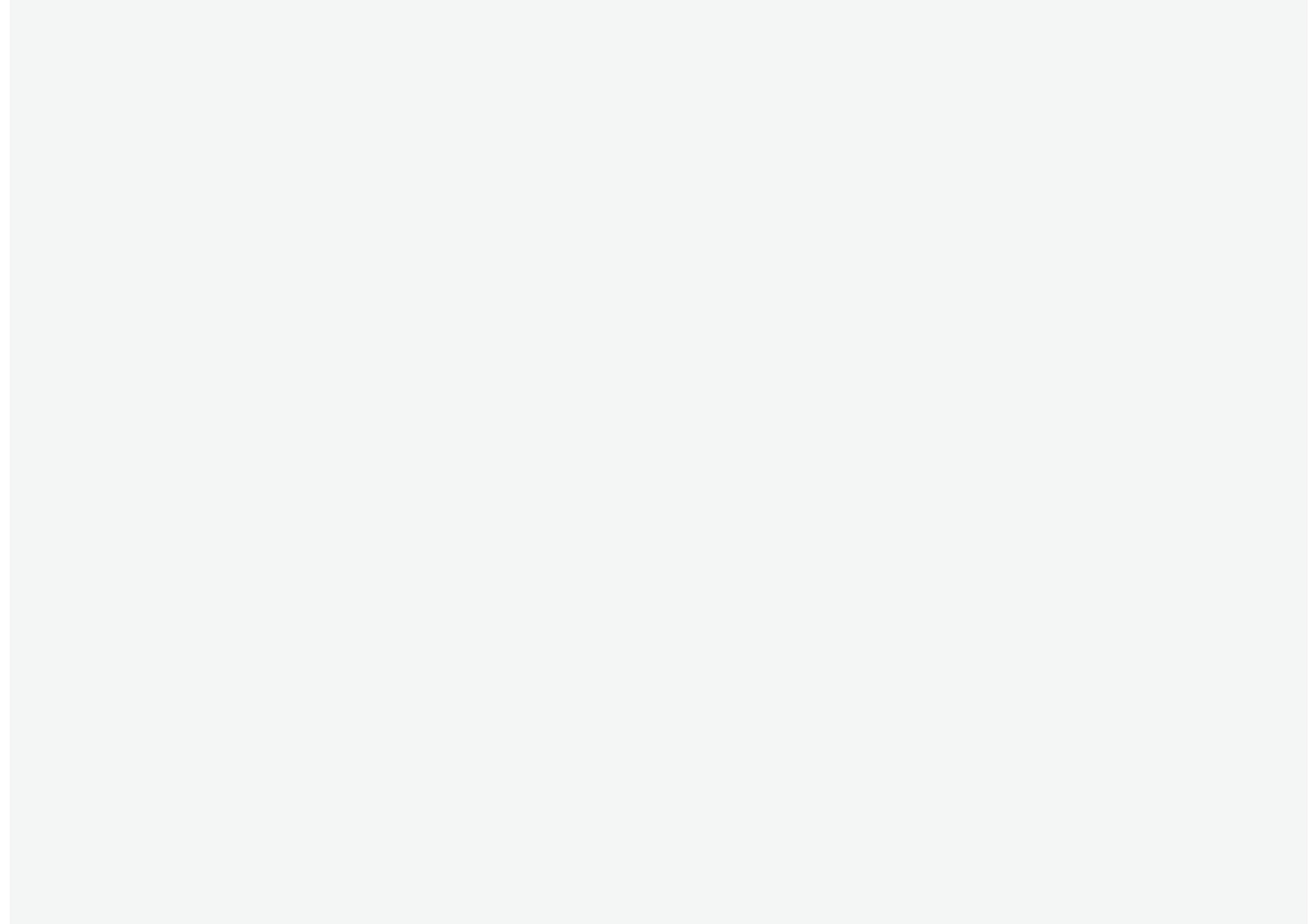|	SPC-2010	SPC-2001	SPC-1010
	PTZ / DVR System Controller	PTZ / DVR System Controller	PTZ Control Keyboard
Features	• Control up to 255 PTZ Cameras / DVRs • Built-in 3 Axis Twist Zoom Joystick • Built-in Jog Shuttle • 16 x 2 Character LCD Display • RS-485 and RS-422 Interface	• Control up to 255 PTZ Cameras / DVRs • Built-in 3 Axis Twist Zoom Joystick • Built-in Jog Shuttle • 16 x 2 Character LCD Display • RS-485 and RS-422 Interface	• Control up to 255 PTZ Cameras • Multi Protocols Supports • OSD Menu, 3D Joystick Control • RS-485 and RS-422 Interface

Lens

Model	Image	Mount	Image Format	Resolution	Focal Length	Back Focal Length	Zoom Ratio	F. No	Angle of View	Operation Iris	Operation Focus	Operation Zoom	Dimensions W x H x D (mm / inch)	Weight (g / lb)
SLA-M8550D					8.5~50mm (0.33"~1.97")	9.4~10.7mm (0.37"~0.42")	5.9	F1.6	42.3°~7.5°	DC	Manual	Manual	W 46 xH 60 x D 58.2mm (1.81" x 2.36" x 2.29")	80g (0.17 lb)
SLA-M2890DN		CS	1 / 2.8"	3Megapixel	2.8~9mm (0.11"~0.35")	7.5~15.9mm (0.3"~0.63")	3.2	1.2	134.2°~42.7°				W 45 x H 51.5 x D 54.3mm (1.77" x 2.03" x 2.14")	84g (0.19 lb)
SLA-M2890PN										P-Iris				82.1g (0.18 lb)
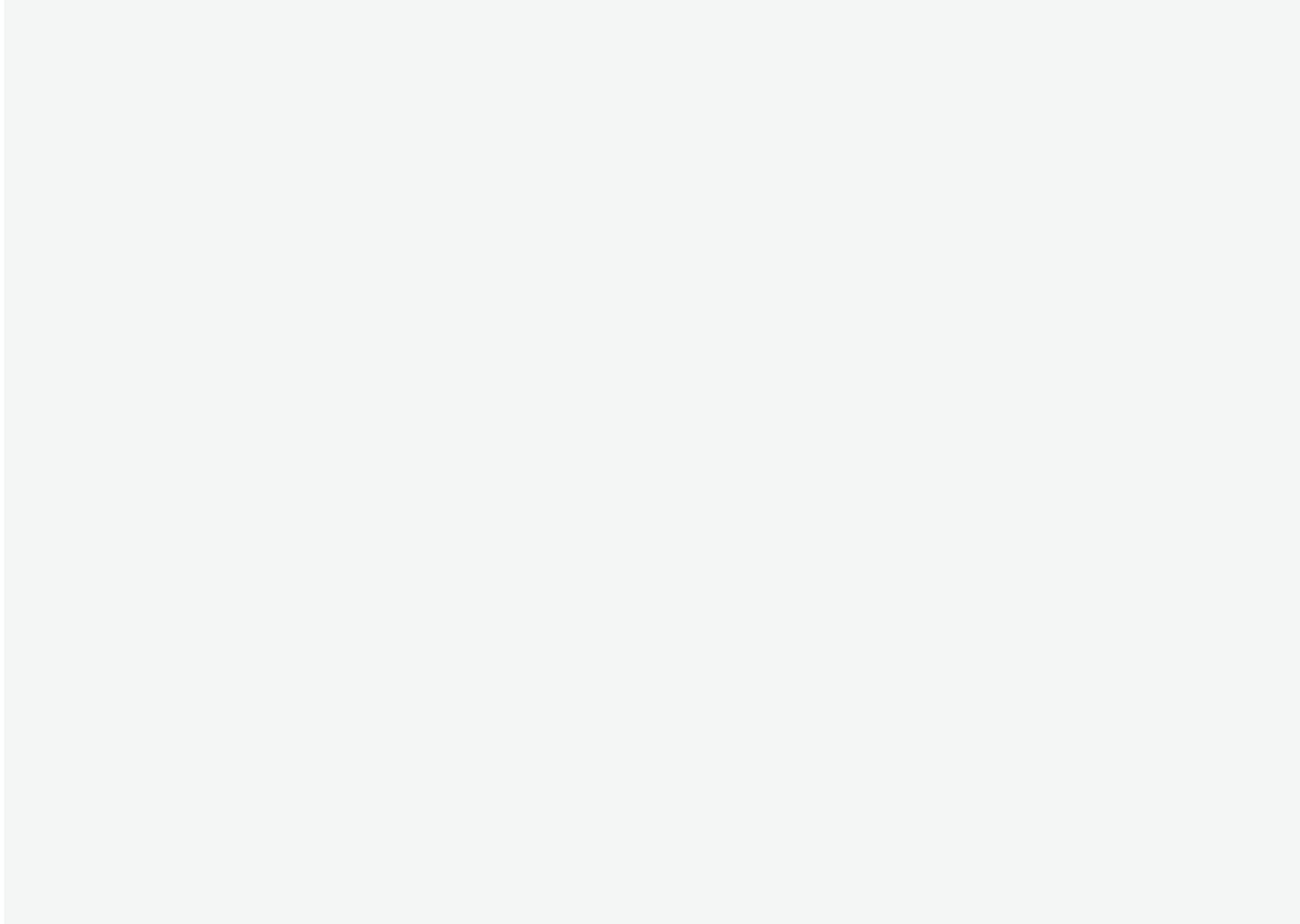
MEMO

MEMO

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