2025 H1 PRODUCT PORTFOLIO

PROUDLY
KOREAN

Hanwhavision.eu

Hanwha Group

Hanwha embraces bold challenges.

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

Hanwha champions a more sustainable and vibrant future.

Sales 2023	**Business Enterprise in South Korea** Total assets, as of end of 2023
61.3 USD Billions	**TOP 7**
Years of History Founded in 1952	**Ranking on Fortune Global 500 in 2024**
73	**372**
Global Networks As of end of 2023	
776	

History

2024	— Unveiled AI Packs for tailored sector solutions
	— Launched first camera that combines barcode reading and video surveillance
2023	— Changed name to 'Hanwha Vision'
	— Announced focus on becoming a vision solution provider
2022	— Launched IP audio system
2021	— Launched the X series AI cameras
	— 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 cameras
	— Launched Winsenet 7 SoC, a camera series with Wisenet 7 SoC acquired UL CAP (UL Cybersecurity Assurance Program)
2019	— UK Government official cybersecurity certification
	— Launched the world's first 55x IR PTZ camera
2018	— Established Hanwha Techwin Vietnam manufacturing corporation
	— Wisenet 5 SoC and X camera series launched
	— Acquired CES, a UK Government cybersecurity 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

Hanwha Vision

Your vision partner.

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

We have been ensuring safety and peace of mind around the world with outstanding products and solutions and industry-leading cybersecurity.

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.

CORE COMPETENCIES

Strengthening our competitiveness.

Our core competitiveness is based on industry-leading optical and image processing technology, AI-powered analysis, and trusted cybersecurity.

Vision technology

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

AI-based intelligent analysis

Hanwha Vision offers AI-powered solutions with intelligent analytics algorithms that enable our customers to efficiently analyse data and make better decisions.

Cybersecurity

With cybersecurity always at the top of its priority list, Hanwha Vision is committed to designing, developing and manufacturing products and solutions which are cyber-secure, keep users' confidential information safe and comply with international data protection regulations.
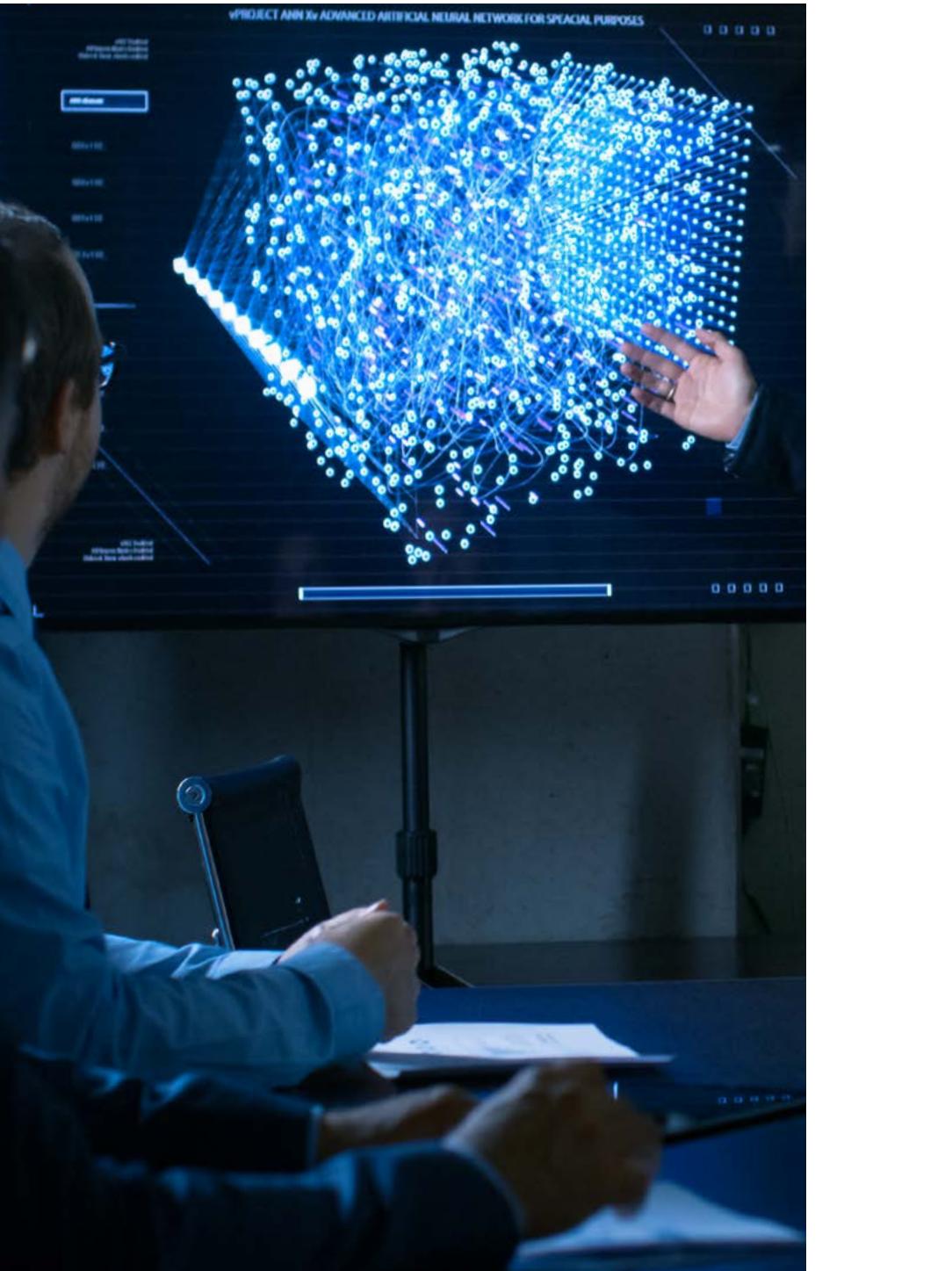
R&D POWER

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

In 2022 Hanwha Vision established an Innovation Centre in the US, with the remit of developing key technologies of the future, such as AI and cloud.

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

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

American Innovation Centre

Headquarters R&D Centre
(Pangyo, Korea)

AI Lab

To ensure 24/7 reliability of our products, we leverage a smart manufacturing system.

HIGH–TECH POWERED IN VIETNAM

Hanwha Vision's manufacturing subsidiary in Vietnam (HVSV) has been in operation since 2018, to expand global production capability as well as strengthen cost competitiveness. Through automation and smart systems, Hanwha Vision has built sophisticated manufacturing lines producing all product line–ups including cameras and storage devices. Products produced in HVSV go through a reliable manufacturing and quality assurance process. Sold globally, these products represent 85% of Hanwha Vision's total sales.
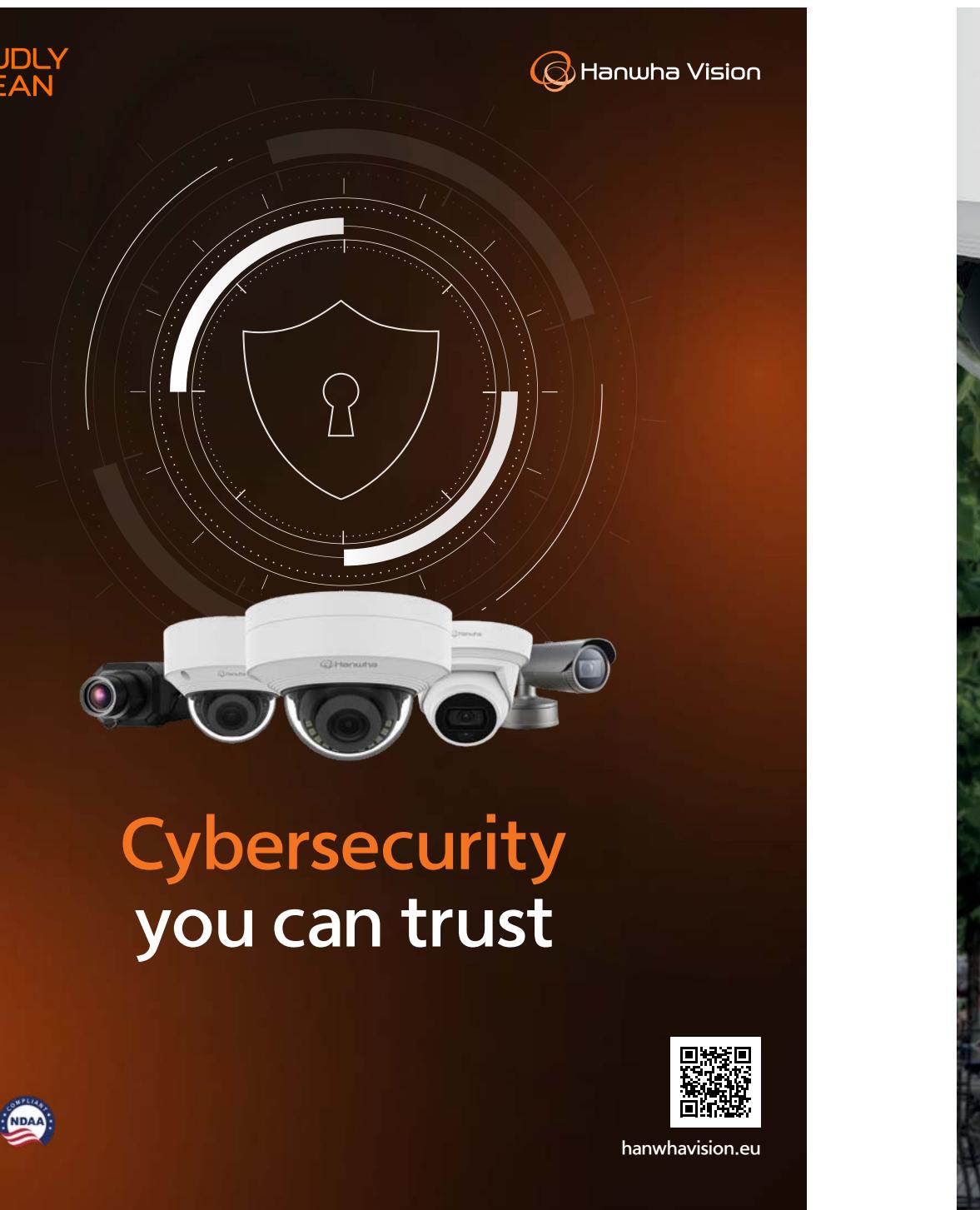
END–TO–END
CYBERSECURITY

Hanwha Vision offers best–in–class cybersecurity with secure boot/OS/storage, a signed firmware/open platform app, secure JTAG and more. Hanwha Vision established its own device certificate issuing system to embed certificates into the product in development as well as manufacturing.

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

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

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Hanwha Vision

Cybersecurity
you can trust

hanwhavision.eu

Q series AI Camera

Quality AI

AI–powered object detection for accurate analytics and efficient forensic search.

- AI–based object detection (Person, Vehicle)
- Colour classification (Upper/Lower Clothing, Vehicle)
- Heatmap, Queue Management, People/Vehicle Counting
- False alarm reduction
- Assist forensic search
- WiseNRII, SSNRV, WiseStreamIII

*Features may vary across models; please refer to product specifications.

4K ULTRA HD
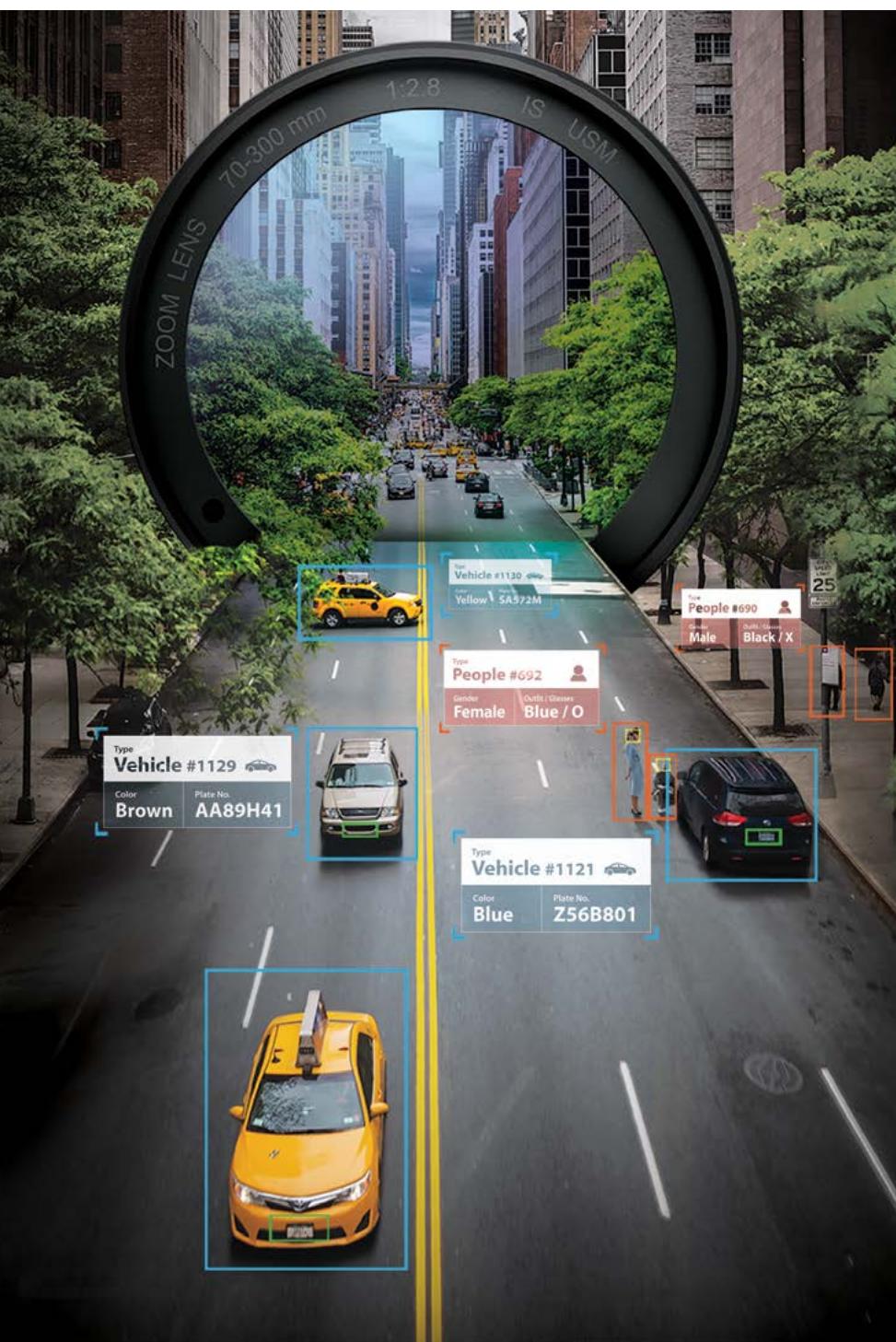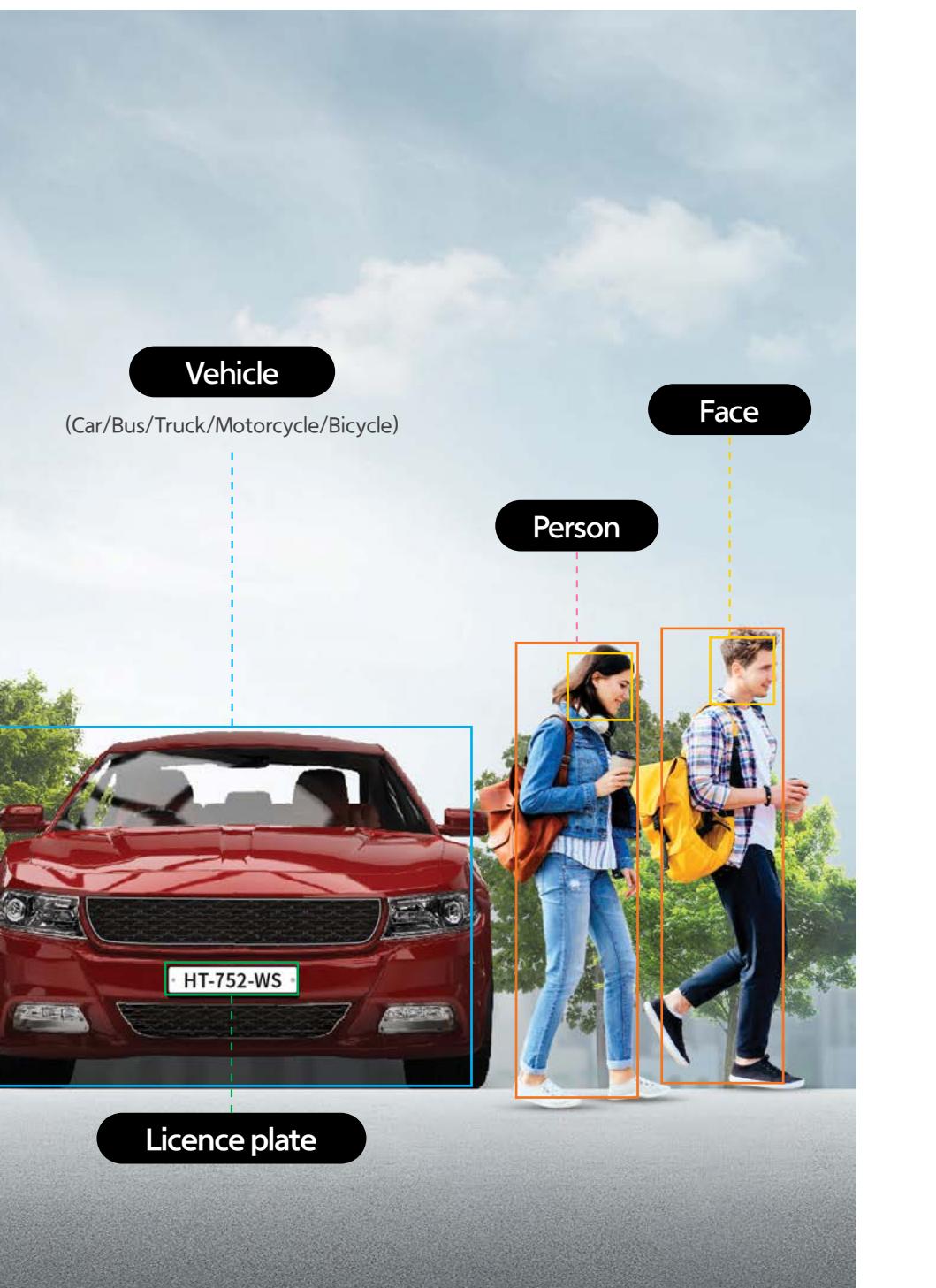
Q series AI

X series AI Camera

Powerful AI for the X series

Object detection Edge-based business intelligence

Improved image quality Next-level cybersecurity

User convenience Reinforced durability

Featuring advanced artificial intelligence and deep-learning technologies, X series AI cameras offer industry-leading AI-based object detection for false alarm reduction, enhanced image quality and edge-based business intelligence.

Vehicle

(Car/Bus/Truck/Motorcycle/Bicycle)

Face

Person

Licence plate

HT-752-WS

P series AI Camera & NVR

Premium AI for unparalleled accuracy

Object/attribute detection Glasses Bag Mask

Colour classification Demographic analytics Slip and Fall

People/vehicle counting

Equipped with a powerful artificial intelligence engine, P series AI cameras are designed to accurately capture the unique attributes of objects, whilst reducing false alarms. This enables operators to quickly and efficiently search for specific events or objects with defined attributes.

**Available for AI Packs –
Factory, Retail and Traffic**

*Features may vary across models;
please refer to product specifications.

Type Vehicle #1129
Color Brown Plate No. AA89H41

Type Vehicle #1121
Color Blue Plate No. Z56B801

People #692
Female Blue / O

People #690
Male Black / X

Vehicle #1120
Yellow SA572M
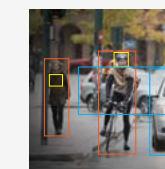
P series AI

Network Video Recorders

P series AI Cameras
Detect and classify objects real-time

VMS Plug-in
for improved
AI search
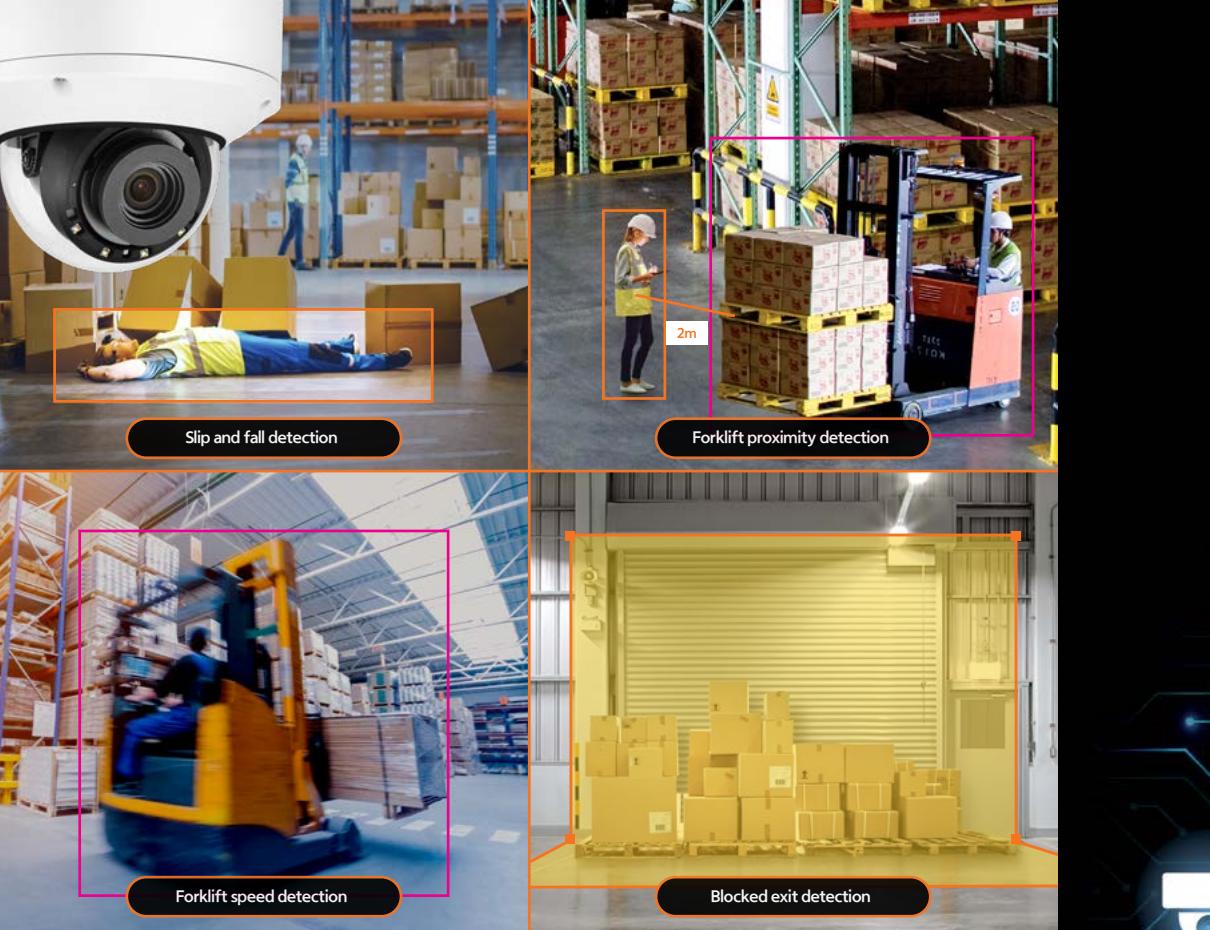
AI Search
Quickly search based on attributes

Person, face, vehicle, licence plate

AI plug-ins offer seamless integration
with VMS from Milestone and Genetec

Slip and fall detection

Forklift proximity detection

2m

Forklift speed detection

Blocked exit detection

SolidEDGE: Serverless VMS On the Edge

WAVE sync

AWARD WINNING

- Edge-based VMS recording solution
- Cloud video management
- Supports up to 5 additional cameras

Bolstering safety at industrial sites

Tailored AI analytics for manufacturing, logistics

FACTORY & SAFETY AI PACK | AIA-C01FSP
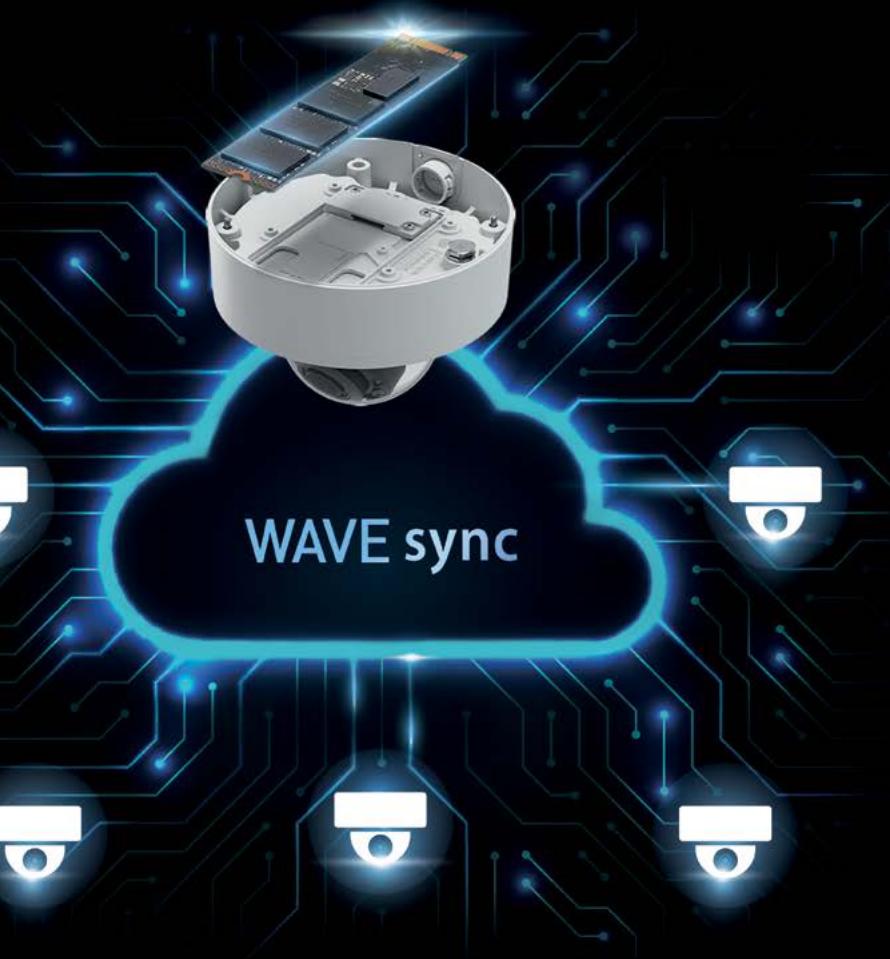
- AI detection for people and forklifts
- Oversee forklift speed and queues with AI
- Monitor distances between forklifts, forklifts and people
- Optimise operations with heatmap analytics (people, forklifts)
- Blocked exit detection bolsters safety
- Slip and fall detection improves incident response
- Perpetual licensing, no ongoing monthly costs

www.hanwhavision.eu

Heatmap analytics

Trolley, people detection

Slip and fall detection

Blocked exit detection

Unlocking smarter store management

Tailored AI analytics for retailers

RETAIL & BUSINESS AI PACK | AIA-C01RET

- AI detection for people and shopping trolleys
- Optimise stores with heatmap analytics (people, trolley)
- Higher checkout efficiency with advanced queue monitoring
- Blocked exit detection bolsters safety and compliance
- Slip and fall detection improves incident response
- Perpetual licensing, no ongoing monthly costs

www.hanwhavision.eu

## We supply peace of mind.

- Expertly engineered and manufactured in-house
- Excellent cost/performance ratio
- Trusted cybersecurity
- Stability of supply

PROUDLY KOREAN

Hanwha Vision

GLOBAL NETWORK

Hanwha Vision works with customers and partners around the world for global R&D, manufacturing and sales partnerships.

- Hanwha Vision R&D Centre (HQ, South Korea)
- Hubs around the world

Hanwha Vision Europe

Hanwha Vision (Headquarters, Korea)

Hanwha Vision America

Hanwha Vision MEA FZE

Hanwha Vision Vietnam

Hanwha Vision Mexico

Hanwha Vision Oceaina

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+
T : Vertical(Special)

Product Type
N : Network cam
C : Analog 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
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)

Version
0~9

Feature
A : Revision
B : Black Colour
C : Corner
D : Dual eye
E : Explosion Proof or PoE extender or Edge(SSD)
F : Flush or SFP LC (Fiber Channel)
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 Colour
X : Modular design
Y : Body Temp
Z : PTRZ
LP : License plate
RV : IR + vandal
1T/2T Capacity of SSD

Recorder

P R N – 6 4 0 0 D B 4
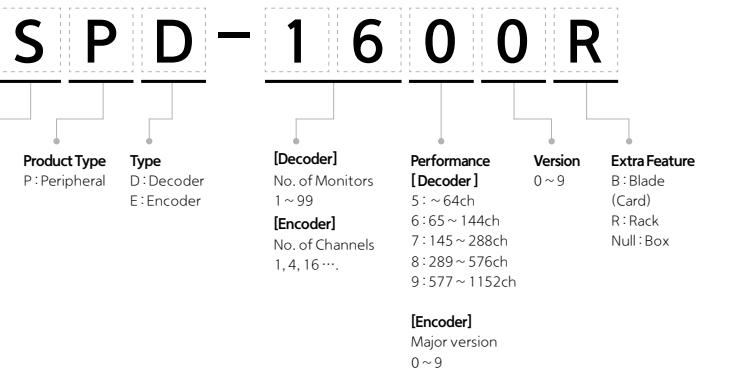
Series Name
P : Premium
X : Versatile
Q : Quality
H : HD+
T : Vertical (Special)
S : Legacy

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
0 ~ 9

Version
0 ~ 9

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

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

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 : 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

A:Revision

Shape
Null : Cylinder
F : Fisheye
V : Flat Cube

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.eu

	X Plus	X Plus	X Plus	X Plus	X Plus
	XNO-9083R 8MP AI IR Bullet Camera	**XNV-9083R** 8MP AI IR Vandal Dome Camera	**XNV-9083RZ** 8MP AI IR PTRZ Dome Camera	**XND-9083RV** 8MP AI IR Dome Camera	**XNB-9003** 8MP AI Box Camera
Imaging Device	1/1.8" progressive CMOS				
Resolution / Max. Frame Rate	8MP / 30fps				
Min. Illumination	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.03Lux(F1.2, 1/30sec, 30IRE) BW: 0.003Lux(F1.2, 1/30sec, 30IRE)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	–	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	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 : 112.1˚ (Wide) ~ 47.5˚ (Tele) V : 58˚ (Wide) ~ 26.6˚ (Tele) D : 137.5˚ (Wide) ~ 54.6˚ (Tele)	H : 112.1˚ (Wide) ~ 47.5˚ (Tele) V : 58˚ (Wide) ~ 26.6˚ (Tele) D : 137.5˚ (Wide) ~ 54.6˚ (Tele)	H : 113˚ (Wide) ~ 47˚ (Tele) V : 58˚ (Wide) ~ 26˚ (Tele) D : 138˚ (Wide) ~ 54˚ (Tele)	H : 112.1˚ (Wide) ~ 47.5˚ (Tele) V : 58˚ (Wide) ~ 26.6˚ (Tele) D : 137.5˚ (Wide) ~ 54.6˚ (Tele)	–
Pan / Tilt / Rotate Range	0˚~ 360˚ / 0˚~ 90˚ / 0˚~ 360˚	0˚~ 360˚ / 0˚~ 85˚ / 0˚~ 355˚	Remote adjustment(Max. 200cycles) 0˚~ 350˚ / 0˚~ 85˚ / 0˚~ 340˚	0˚~ 360˚ / 0˚~ 85˚ / 0˚~ 355˚	–
IR Viewable Length	WiseIR 50m (164.04ft)	WiseIR 50m (164.04ft)	15m (49.21ft) 30m (98.43ft) based on scene	WiseIR 50m (164.04ft)	–
Day & Night	Auto (ICR)				
Wide Dynamic Range	extremeWDR (120dB)				
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	**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	Based on AI engine: People/Vehicle counting, Queue management, Heatmap	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 (Max. 50mA)	2 configurable I/O ports, DC 12V output (Max. 50mA)	–	2 configurable I/O ports, DC 12V output (Max. 50mA)	2 configurable I/O ports
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	–	Selectable (mic in/line in/built-in mic) / Line out	Selectable (mic in/line in/built-in mic) / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Up to 10 profiles, 3 virtual channel support				
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	-50℃~+55℃(-58℉~+131℉) +74℃(+165℉)(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	-50℃~+55℃(-58℉~+131℉) * Start up should be done at above -30℃ 0~100% RH(condensing) Humidity control with AIR vent	-50℃~+55℃(-58℉~+131℉) * Start up should be done at above -30℃ 0~100% RH(condensing) Humidity control with AIR vent	-25℃~+50℃(-13℉~+122℉) / 0~100% RH(condensing) Humidity control with AIR vent	-10℃~+55℃(-14℉~+131℉) / 0~95% RH(non-condensing)
Certification	IP66, IP67, NEMA4X, IK10	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP52, IK10	–
Power Consumption	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 12.1W	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
Product Dimensions / Weight	ø 93.4x298.4mm(ø 3.68x11.75"), 2200g(4.85 lb)	ø 180x125mm(ø 7.09x4.92"), 1900g(4.19 lb)	ø 180x135mm(ø 7.09x5.31"), 2000g(4.41 lb)	ø 160x125mm(ø 6.30x4.92"), 1600g(3.53 lb)	81(W)x67(H)x165(D)mm(3.19x2.64x6.48"), 880g(1.94 lb)

	X Plus	X Plus	X Plus	X Plus	X Plus
	XNV-8093R 6MP AI IR Vandal Dome Camera	**XND-8093RV** 6MP AI IR Dome Camera	**XNO-8083R** 6MP AI IR Bullet Camera	**XNV-8083R** 6MP AI IR Vandal Dome Camera	**XNV-8083RZ** 6MP AI IR Vandal Dome Camera
Imaging Device	1/1.8" progressive CMOS				
Resolution / Max. Frame Rate	6MP/30fps				
Min. Illumination	Colour: 0.06Lux(F1.7, 1/30sec, 30IRE) BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.06Lux(F1.7, 1/30sec, 30IRE) BW: 0.006Lux(F1.7, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(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)	10.9~29mm(2.7x) motorized varifocal	10.9~29mm(2.7x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal
Angular Field of View	H: 42° (Wide) ~ 15° (Tele) V: 22.8° (Wide) ~ 8.4° (Tele) D: 48.7° (Wide) ~ 17.1° (Tele)	H: 42° (Wide) ~ 15° (Tele) V: 22.8° (Wide) ~ 8.4° (Tele) D: 48.7° (Wide) ~ 17.1° (Tele)	H: 112.1° (Wide) ~ 47.5° (Tele) V: 58° (Wide) ~ 26.6° (Tele) D: 137.5° (Wide) ~ 54.6° (Tele)	H: 112.1° (Wide) ~ 47.5° (Tele) V: 58° (Wide) ~ 26.6° (Tele) D: 137.5° (Wide) ~ 54.6° (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°	0°~360° / 0°~85° / 0°~355°	Remote adjustment(Max. 200cycles) 0°~350° / 0°~85° / 0°~340°
IR Viewable Length	WiseIR 70m (229.66ft)	WiseIR 70m (229.66ft)	WiseIR 50m (164.04ft)	WiseIR 50m (164.04ft)	15m (49.21ft), 30m (98.43ft) based on scene
Day & Night	Auto (ICR)				
Wide Dynamic Range	extremeWDR (120dB)				
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	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				Based on AI engine: People/Vehicle counting
Alarm I/O	2 configurable I/O ports, DC 12V output (Max. 50mA)				–
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in/built-in mic) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	–
Video Compression	H.265 / H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Up to 10 profiles, 3 virtual channel support				
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) 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-TS2(2.2.7) * Start up should be done at above -30°C 0~100% RH(condensing) Humidity control with AIR vent	-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	-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, IP67, IP6K9K, NEMA4X, IK10+	IP52, IK10	IP66, IP67, NEMA4X, IK10	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP66, IP67, IP6K9K, NEMA4X, IK10+
Power Consumption	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 17.9W 12VDC: Max 20W, typical 15.6W Power redundancy failover	PoE+: Max 22.5W, typical 12.1W
Product Dimensions / Weight	ø180x125mm(ø7.09x4.92"), 1900g(4.19 lb)	ø160x125mm(ø6.30x4.92"), 1600g(3.53 lb)	ø93.4x298.4mm(ø3.68x11.75"), 2200g(4.85 lb)	ø180x125mm(ø7.09x4.92"), 1900g(4.19 lb)	ø180x135mm(ø7.09x5.31"), 2000g(4.41 lb)

	X Plus	X Plus	X Plus	X Plus	X Plus
	XNV-8083Z 6MP AI Vandal Dome Camera	**XND-8083RV** 6MP AI IR Dome Camera	**XNB-8003** 6MP AI Box Camera	**XNO-6123R** 2MP AI IR Bullet Camera	**XNO-6083R** 2MP AI IR Bullet Camera
Imaging Device	1/1.8" progressive CMOS	1/1.8" progressive CMOS	1/1.8" progressive CMOS	1/2.8" progressive CMOS	1/2.8" progressive CMOS
Resolution / Max. Frame Rate	6MP/30fps	6MP/30fps	6MP/30fps	2MP/120fps	2MP/120fps
Min. Illumination	Colour: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.03Lux(F1.2, 1/30sec, 30IRE) BW: 0.003Lux(F1.2, 1/30sec, 30IRE)	Colour: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps
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	4.4~9.3mm(2.1x) motorized varifocal	–	5.2~62.4mm(12x) zoom (digital 32x, total 384x zoom)	2.8~12mm(4.3x) motorized varifocal
Angular Field of View	H: 113° (Wide)~47° (Tele) V: 58° (Wide)~26° (Tele) D: 138° (Wide)~54° (Tele)	H: 112.1° (Wide) ~ 47.5° (Tele) V: 58° (Wide) ~ 26.6° (Tele) D: 137.5° (Wide) ~ 54.6° (Tele)	–	H: 55° (Wide) ~ 5° (Tele) V: 35° (Wide) ~ 3° (Tele) D: 62° (Wide) ~ 6° (Tele)	H: 119.5° (Wide) ~ 27.9° (Tele) V: 62.8° (Wide) ~ 15.7° (Tele) D: 142.1° (Wide) ~ 32° (Tele)
Pan / Tilt / Rotate	0°~350° / 0°~85° / 0°~340°	0°~360°/ ~45°~85° / 0° ~ 355°	–	–	–
IR Viewable Length	–	WiseIR 50m (164.04ft)	–	WiseIR 90m (295.28ft)	WiseIR 50m (164.04ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	extremeWDR (120dB)	extremeWDR (120dB)	extremeWDR (120dB)	extremeWDR (150dB)	extremeWDR (150dB)
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V				
Digital Image Stabilization	Support(built-in gyro sensor)				
Analytics	Classified object type: Person/Face/Vehicle(Type: car/bus/truck/motorcycle/bicycle)/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, Virtual area(Appear/Disappear) * Audio detection, Sound classification (with NW I/O box SPM-4210)	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	Based on AI engine: People/Vehicle counting, Queue management, Heatmap	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 (Max. 50mA)	2 configurable I/O ports	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 mic) / Line out	Selectable (mic in/line in/built-in mic) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265/H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles	Up to 10 profiles, 3 virtual channel support
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-50°C~+55°C(-58°F~+131°F) * 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	-10°C~+55°C(-14°F~+131°F) / 0~95% RH(non-condensing)	-40°C~+60°C(-40°F~+140°F) * Start up should be done at above -30°C 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-TS2(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, IK10, NEMA4X, NEMA-TS2 (2.2.8, 2.2.9)	IP66, IP67, NEMA4X, IK10
Power Consumption	PoE+: Max 17.0W, typical 12.1W	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 22.5W, 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 Power redundancy failover
Product Dimensions / Weight	ø180x135mm(ø7.09x5.31"), 2000g(4.41 lb)	ø160x125mm(ø6.30x4.92"), 1600g(3.53 lb)	81(W)x67(H)x165(D)mm(3.19x2.64x6.48"), 880g(1.94 lb)	ø93.4x298.4mm(ø3.68x11.75"), 2300g(5.07 lb)	ø93.4x298.4mm(ø3.68x11.75"), 2200g(4.85 lb)

AI Camera

	X Plus	X Plus	X Plus	X Plus	X Plus
	XNV-6123R 2MP AI IR Vandal Dome Camera	**XNV-6083RZ** 2MP AI IR Vandal Dome Camera	**XNV-6083R** 2MP AI IR Vandal Dome Camera	**XNV-6083Z** 2MP AI Vandal Dome Camera	**XND-6083RV** 2MP AI IR Dome Camera
Imaging Device	1/2.8″ progressive CMOS				
Resolution / Max. Frame Rate	2MP / 120fps				
Min. Illumination	Colour: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.03Lux(F1.3, 1/30sec, 30IRE) BW: 0.003Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 30/25fps	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	–	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	–	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)	5.2~62.4mm(12x) zoom (digital 32x, total 384x zoom)	4.4~9.3mm(2.1x) motorized varifocal	2.8~12mm(4.3x) motorized varifocal	2.8~12mm(4.3x) motorized varifocal	2.8~12mm(4.3x) motorized varifocal
Angular Field of View	H: 55°(Wide)~5°(Tele) V: 33°(Wide)~3°(Tele) D: 62°(Wide)~6°(Tele)	H: 113°(Wide)~47°(Tele) V: 58°(Wide)~26°(Tele) D: 138°(Wide)~54°(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° / −45°~80° / 0°~355°	0°~350° / 0°~85° / 0°~340°	0°~360° / −45°~80° / 0°~355°	0°~350° / 0°~85° / 0°~340°	0°~360° / −45°~85° / 0°~355°
IR Viewable Length	WiseIR 90m (295.28ft)	15m(42.91ft)	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), SSNR V	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	Support (built-in gyro sensor)	Support	Support (built-in gyro sensor)	Support	Support (built-in gyro sensor)
Analytics	**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	Based on AI engine: People/Vehicle counting, Queue management, Heatmap	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)	–	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) / Line out	–	Selectable (mic in/line in) / Line out	–	Selectable (mic in/line in/built-in mic) / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Up to 10 profiles	Up to 10 profiles	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles	Up to 10 profiles, 3 virtual channel support
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	−40℃~+60℃(−40℉~+140℉) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR vent	−50℃~+55℃(−58℉~+131℉) * Start up should be done at above −30℃ 0~100%RH(condensing) Humidity control with AIR vent	−50℃~+55℃(−58℉~+131℉) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR vent	−50℃~+55℃(−58℉~+131℉) * Start up should be done at above −30℃ 0~100% RH(condensing) Humidity control with AIR vent	−25℃~+50℃(−13℉~+122℉) / 0~100% RH(condensing) Humidity control with AIR vent
Certification	IP66, IP67, IP6K9K, NEMA4X, NEMA−TS 2 (2.2.8, 2.2.9), IK10+	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP66, IP67, IP6K9K, NEMA4X, IK10+″	IP66, IP67, IP6K9K, NEMA4X, IK10+	IP52, IK10
Power Consumption	PoE+: Max 19.5W, typical 15.5W 12VDC: Max 16.5W, typical 13.1W Power redundancy failover	PoE+: Max 22.5W, typical 11.0W	PoE+: Max 22.5W, typical 11.0W″	PoE+: Max 17.0W, typical 11.0W	PoE+: Max 17.0W, typical 11.0W
Product Dimensions / Weight	ø 180x138mm(ø 7.09x5.43″), 2130g(4.70 lb)	ø 180x135mm(ø 7.09x5.31″), 2000g(4.41 lb)	ø 180x125mm(ø 7.09x4.92″), 1900g(4.19 lb)	ø 180x135mm(ø 7.09x5.31″), 2000g(4.41 lb)	ø 160x125mm(ø 6.30x4.92″), 1600g(3.53 lb)

AI Camera

	X Plus	X Core	X Core	X Core	X Core
	XNB-6003 2MP AI Box Camera	**XNO-C9083R** 8MP AI IR Bullet Camera	**XNV-C9083R** 8MP AI IR Vandal Dome Camera	**XND-C9083RV** 8MP AI IR Dome Camera	**XNO-C8083R** 6MP AI IR Bullet Camera
Imaging Device	1/2.8″ progressive CMOS	1/1.8″ progressive CMOS	1/1.8″ progressive CMOS	1/1.8″ progressive CMOS	1/1.8″ progressive CMOS
Resolution / Max. Frame Rate	2MP / 120fps	8MP / 30fps	8MP / 30fps	8MP / 30fps	6MP / 30fps
Min. Illumination	Colour: 0.007Lux(F1.2, 1/30sec, 30IRE) BW: 0.0007Lux(F1.2, 1/30sec, 30IRE), 30/25fps	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 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	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	–	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal
Angular Field of View	–	H: 113°(Wide)~47°(Tele) 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: 113°(Wide)~47°(Tele) V: 58°(Wide)~26°(Tele) D: 138°(Wide)~54°(Tele)
Pan / Tilt / Rotate	–	0° ~ 360° / −45°~75° / 0° ~ 355°		0° ~ 360° / −45°~75° / 0° ~ 355°	–
IR Viewable Length	–	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)
Day & Night	Auto (ICR)				
Wide Dynamic Range	extremeWDR(120dB)				
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	**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				
Audio I/O	Selectable (mic in/line in/built-in mic) / Line out			–	Selectable (mic in/line in/built-in mic) / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Up to 10 profiles, 3 virtual channel support				
Edge Storage	micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidit	−10℃~+55℃(−14℉~+131℉) / 0~95% RH(non-condensing)	−40℃~+55℃(−40℉~+131℉) * Start up should be done at above −20℃ 0~100%RH(condensing) Humidity control with AIR vent	−40℃~+55℃(−40℉~+131℉) * Start up should be done at above −20℃ 0~100%RH(condensing) Humidity control with AIR vent	−10℃~+50℃(14℉~+122℉) / 0~100% RH(condensing) Humidity control with AIR vent	−40℃~+55℃(−40℉~+131℉) * Start up should be done at above −20℃ 0~100%RH(condensing) Humidity control with AIR vent
Certification	–	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP52, IK08	IP66, IP67, NEMA4X, IK10
Power Consumption	PoE: Max 12.95W, typical 9.8W 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	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	81(W)x67(H)x165(D)mm(3.19x2.64x6.48″), 880g(1.94 lb)	ø 93.4x276.6mm(ø 3.68x10.89″), 1640g(3.62 lb)	ø 160x118mm(ø 6.30x4.65″), 1450g(3.20 lb)	ø 160x118mm(ø 6.30x4.65″), 1350g(2.98 lb)	ø 93.4x276.6mm(ø 3.68x10.89″), 1640g(3.62 lb)

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

	X Core	X Core	X Core	X Core	X Core
	XNV-C8083R 6MP AI IR Vandal Dome Camera	**XND-C8083RV** 6MP AI Dome Camera	**XNO-C7083R** 4MP AI IR Bullet Camera	**XNV-C7083R** 4MP AI Vandal Dome Camera	**XND-C7083RV** 4MP AI IR Dome Camera
Imaging Device	1/1.8″ progressive CMOS	1/1.8″ progressive CMOS	1/2.8″ progressive CMOS	1/2.8″ progressive CMOS	1/2.8″ progressive CMOS
Resolution / Max. Frame Rate	6MP / 30fps	6MP / 30fps	4MP / 60fps	4MP / 60fps	4MP / 60fps
Min. Illumination	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux(F1.3, 1/30sec, 30IRE) BW: 0.004Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.038Lux(F1.4, 1/30sec, 30IRE) BW: 0.0038Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.038Lux(F1.4, 1/30sec, 30IRE) BW: 0.0038Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 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, 1280x720 for installation				
Focal Length (Zoom Ratio)	4.4~9.3mm(2.1x) motorized varifocal	4.4~9.3mm(2.1x) motorized varifocal	2.8~10mm(3.6x) motorized varifocal	2.8~10mm(3.6x) motorized varifocal	2.8~10mm(3.6x) motorized varifocal
Angular Field of View	H: 113° (Wide)~47° (Tele) 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: 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: 110° (Wide)~30° (Tele) V: 61° (Wide)~17° (Tele) D: 132° (Wide)~35° (Tele)
Pan / Tilt / Rotate	0°~360° / −45°~75° / 0°~355°	0°~360° / −45°~75° / 0°~355°	–	0°~360° / −45°~75° / 0°~355°	0°~360° / −45°~75° / 0°~355°
IR Viewable Length	WiseIR 40m (131.23ft)				
Day & Night	Auto (ICR)				
Wide Dynamic Range	extremeWDR (120dB)				
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V				
Digital Image Stabilization	Support (built-in gyro sensor)				
Analytics	**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				
Audio I/O	Selectable (mic in/line in) / Line out	–	Selectable (mic in/line in) / Line out		–
Video Compression	H.265 / H.264, MJPEG				
WiseStream	Manual(Sea area), WiseStream III(Based on AI engine)				
Streaming	Up to 10 profiles, 3 virtual channel support				
Edge Storage	micro SD/SDHC/SDXC 1slot 512GB				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **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	−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
Certification	IP66, IP67, NEMA4X, IK10	IP52, IK08	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP52, IK08
Power Consumption	PoE: Max 12.95W, typical 11.2W 12VDC: Max 13.2W, typical 10.8W	PoE: Max 12.95W, typical 11.2W 12VDC: Max 13.2W, typical 10.8W	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	ø160x118mm(ø6.30x4.65″), 1450g(3.20 lb)	ø160x118mm(ø6.30x4.65″), 1350g(2.98 lb)	ø93.4x276.6mm(ø3.68x10.89″), 1640g(3.62 lb)	ø160x118mm(ø6.30x4.65″), 1450g(3.20 lb)	ø160x118mm(ø6.30x4.65″), 1350g(2.98 lb)

	X Core	X Core	X Core	X Plus
	XNO-C6083R 2MP AI IR Bullet Camera	**XNV-C6083R** 2MP AI IR Vandal Dome Camera	**XND-C6083RV** 2MP AI Dome Camera	**XNF-9013RV** 12MP AI Fisheye Camera
Imaging Device	1/2.8″ progressive CMOS	1/2.8″ progressive CMOS	1/2.8″ progressive CMOS	1/2.3″ 12MP CMOS
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 60fps	2MP / 60fps	3008 x 3008 / 30fps
Min. Illumination	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) B/W: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) B/W: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.01Lux(F1.4, 1/30sec, 30IRE) BW: 0.001Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.39 Lux (F2.2, 1/30sec), BW : 0Lux(IR LED on)
Video Out	USB: Micro USB Type B, 1280x720 for installation			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)	˚2.8~12mm(4.3x) motorized varifocal			1.08mm fixed focal
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: 120°(Wide)~27°(Tele) V: 63°(Wide)~15°(Tele) D: 143°(Wide)~32°(Tele)	H: 187° / V: 187° / D: 187°
Pan / Tilt / Rotate	–	0°~360° / −45°~75° / 0°~355°	0°~360° / −45°~75° / 0°~355°	Lens Rotation
IR Viewable Length	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)	WiseIR 40m (131.23ft)	Wise IR, PoE : 8m(26.25ft), PoE+ : 13m(42.65ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	extremeWDR (150dB)	extremeWDR (150dB)	extremeWDR (150dB)	extremeWDR (120dB)
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V			
Digital Image Stabilization	Support (built-in gyro sensor)	Support (built-in gyro sensor)	Support (built-in gyro sensor)	–
Analytics	**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 **Support DetectionShot** **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, 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		–	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG			
WiseStream	Manual(Sea area), WiseStream III(Based on AI engine)			
Streaming	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles, 3 virtual channel support	Up to 10 profiles, 5 virtual channel support
Edge Storage	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 1slot 512GB	micro SD/SDHC/SDXC 2slots 1TB (512GBx2)
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) **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	−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~+60°C (−40°F~+140°F) / Less than 95% RH POE+ Mode 55°C (Hysteresis 5°C) Wise IR 8m(26.25ft)
Certification	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP52, IK08	IP66, IK10, NEMA4X
Power Consumption	PoE: Max 12.95W, typical 10.8W 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 9.4W, 12VDC: Max 12.9W, typical 9.0W / PoE+: Max 23.0W, typical 9.4W, 12VDC: Max 22.0W, typical 9.0W
Product Dimensions / Weight	ø93.4x276.6mm(ø3.68x10.89″), 1640g(3.62 lb)	ø160x118mm(ø6.30x4.65″), 1450g(3.20 lb)	ø160x118mm(ø6.30x4.65″), 1350g(2.98 lb)	Ø160x72mm(6.23x2.84″), 1,170g (2.58lb)

	AI Focus PTZ	AI PTZ Plus	AI PTZ Plus	AI PTZ Plus	AI PTZ Plus
	XNP-C9310R 8MP 31x AI IR PTZ Camera	**XNP-C9303RW** 8MP 30x AI Wiper IR PTZ Camera	**XNP-C9253R** 8MP 25x AI PTZ Camera	**XNP-C9253** 8MP 25x AI PTZ Camera	**XNP-C8303RW** 6MP 30x AI Wiper IR PTZ Camera
Imaging Device	1/1.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	8MP /30fps	8MP / 30fps	8MP / 30fps	8MP / 30fps	6MP / 30fps
Min. Illumination	Colour: 0.06 Lux(F1.36, 1/30sec, 30 IRE) BW: 0.006 Lux(F1.36, IR LED Off), 0Lux (IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)
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, total 800x zoom)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	5~150mm(30x) zoom (digital 32x, total 960x zoom)
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)	Wise IR 200m (656.17ft)	Wise IR 200m(656.17ft)	–	Wise IR 200m(656.17ft)
Day & Night	Auto (ICR)/Colour/BW/Schedule				
Wide Dynamic Range	extremeWDR(120dB)				
Digital Noise Reduction	WiseNR III(Based on AI engine), SSNRV				
Digital Image Stabilization	Support(built-in gyro sensor)				
Analytics	**Classified object type** : Person/Face/Vehicle/License plate **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, Audio detection, Sound classification(with NW I/O Box : SPM-4210), Shock detection, Virtual area(Appear/Disappear)				
Business Intelligence	–				
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)				
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)				
Video Compression	H.265/H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream III(Based on AI engine)				
Streaming	Up to 10 profiles				
Edge Storage	Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), **Hanwha Vision** Open Platform				
Operating Temperature / Humidity	−50℃~+55℃(−58℉~+131℉)/ +74℃(165℉)(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	−40℃~+55℃(−58℉~+131℉)/ +74℃(165℉)(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			
Certification	IP66/IP67, IK10, NEMA4X Safety(UL, KC=SDOC), EMC(FCC, CE, VCCI, RCM, KC) NEMA-TS 2(2.2.7, 2.2.8, 2.2.9)	IP66, IK10, NEMA4X, NEMA-TS 2(2.2.7, 2.2.8, 2.2.9)			
Power Consumption	Typical 23W, Max 62W	Typical 26W, Max 46W	Typical 24W, Max 40W	Typical 24W, Max 25.5W	Typical 26W, Max 46W
Product Dimensions / Weight	ø188x264.9mm(ø7.40x10.47") / 4400g (9.70lb)	ø184.9x318.8mm(7.28x12.55") / 5600g (12.34lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø184.9x318.8mm(7.28x12.55") / 5600g (12.34lb)
Additional Features	Upgraded preset accuracy, Target lock tracking, Quick zoom, Focus scan, Wise focus	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking

	AI PTZ Plus	AI PTZ Plus	AI Focus PTZ	AI PTZ Plus	AI PTZ Plus	AI PTZ Plus
	XNP-C8253R 6MP 40x AI IR PTZ Camera	**XNP-C8253** 6MP 25x AI PTZ Camera	**XNP-C7310R** 4MP 31x AI + IR PTZ Camera	**XNP-C6403RW** 2MP 40x AI + Wiper + IR PTZ Camera	**XNP-C6403R** 2MP 40x AI + IR PTZ Camera	**XNP-C6403** 2MP 40x AI PTZ Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/1.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	6MP / 30fps	6MP / 30fps	4MP /60fps	2MP / 60fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec)	Colour: 0.04 Lux (F1.36, 1/30sec, 30 IRE) BW: 0.004 Lux(F1.36, IR LED Off), 0Lux (IR LED On)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)
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) Support Quick 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	Wise IR 200m(656.17ft)	–	WiseIR 300m(984ft)	Wise IR 200m (656.17ft)	Wise IR 200m (656.17ft)	–
Day & Night	Auto (ICR)/Colour/BW/Schedule					
Wide Dynamic Range	extremeWDR (120dB)	extremeWDR (120dB)	extremeWDR(120dB)	extremeWDR(150dB)	extremeWDR(150dB)	extremeWDR(150dB)
Digital Noise Reduction	WiseNR II(Based on AI engine), SSNR V					
Digital Image Stabilization	Support (built-in gyro sensor)					
Analytics	**Classified object type** : Person/Face/Vehicle/License plate **Attributes** : Vehicle(Type:car/bus/truck/motorcycle/bicycle) **Support Detection Shot** **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, Audio detection, Sound classification(with NW I/O Box : SPM-4210), Shock detection, Virtual area(Appear/Disappear)					
Business Intelligence	–					
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)					
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)					
Video Compression	H.265/H.264, MJPEG					
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)					
Streaming	Up to 10 profiles					
Edge Storage	Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)					
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), **Hanwha Vision** Open Platform					
Operating Temperature / Humidity	−40℃~+55℃(−40℉~+131℉)/ +74°C(+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	−40℃~+55℃(−40℉~+131℉)/ +74℃(165℉)(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	−50℃~+55℃(−58℉~+131℉)/ +74°C(+165°F)(MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at a bove −30℃ 0~100%RH(Condensing) Humidity control with AIR vent	−40℃~+50℃(−40℉~+122℉)/ +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℃~+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 Humidity control with AIR vent
Certification	IP66, 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)	IP66/67, 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, 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)
Power Consumption	Typical 24W, Max 40W	Typical 24W, Max 25.5W	HPoE: Max 62W, typical 23W	Typical 26W, Max 46W	Typical 24W, Max 40W	Typical 24W, Max 25.5W
Product Dimensions / Weight	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø188x264.9mm(ø7.40x10.47") / 4400g (9.70lb)	ø184.9x318.8mm(7.28x12.55") / 5600g (12.34lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3,200g (7.05lb)
Additional Features	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Target lock tracking, Quick zoom, Focus scan, Wise focus	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking	Upgraded preset accuracy, Object auto tracking, Target lock tracking

	PNO-A9311R 8MP AI IR Bullet Camera	PNO-A9081R 8MP AI IR Bullet Camera	PNV-A9081R 8MP AI IR Vandal Dome Camera	PND-A9081RV 8MP AI IR Dome Camera	PND-A9081RF 8MP AI IR Dome Camera	PNB-A9001 8MP AI Box Camera
Imaging Device	1/1.8″ CMOS					
Resolution / Max. Frame Rate	4K / 30fps	8MP / 30fps				
Min. Illumination	Colour: 0.075Lux(F1.36, 1/30sec, 30IRE) BW: 0.0075Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Colour: 0.03Lux(F1.2, 1/30sec) B/W : 0.003Lux(F1.2, 1/30sec)
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)	6.91~214.7mm (31x) motorized varifocal	4.5~10mm(2.2x) motorized varifocal				–
Angular Field of View	H: 60.92° (Wide)~2.2° (Tele) 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:101.4°(Wide)~45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~52.3°(Tele)	H:101.4°(Wide)~45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~52.3°(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	–	–	0°~360° / –45°~85° / 0°~355°	0°~360° / –45°~85° / 0°~355°	0°~360° / –45°~85° / 0°~355°	–
IR Viewable Length	WiseIR 70m(229.66ft)		WiseIR 30m(98.42ft)			
Day & Night	Auto(ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	WiseNR II (Based on AI engine),SSNR V					
Digital Image Stabilisation	Support (built–in gyro sensor)					
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Person(Gender, Colour and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Colour) 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) / 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	Selectable (mic in/line in/built–in mic) / line out
Video Compression	H.265/H.264: Main/High, MJPEG					
WiseStream	Manual(5area), WiseStream II, WiseStream III(using AI engine)					
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)					
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 512GB(256GBx2)	Micro SD/SDHC/SDXC 2slots 512GB				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform 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	–50°C ~ +55°C(–58°F ~ +131°F) / Less than 90% RH * Start up should be done at above –30°C	–50°C ~ +55°C(–58°F ~ +131°F) / Less than 90% RH * Start up should be done at above –30°C	–25°C ~ +50°C (–13°F ~ +122°F) / Less than 90% RH	–25°C ~ +50°C (–13°F ~ +122°F) / Less than 90% RH	–10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH
Certification	IP66/IP67, IK10, NEMA4X	IP66/IP67, IK10, NEMA4X	IP66/IP67/IP6K9K, IK10+, NEMA4X	IP52, IK10	IP52, IK10, Plenum rate	–
Power Consumption	PoE+: Max 25.5W, typical 14.0W 12VDC: Max 24.0W, typical 12.7.W	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 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W	PoE+: Max 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W	PoE+: Max 16.50W, typical 12.50W 12VDC: Max 13.50W, typical 10.80W
Product Dimensions / Weight	Ø136.2x358.7mm (ø5.36x14.12'') (Without sunshield), 3200g(7.05lb) * backbox: ø160mm(ø6.30'')	Ø91.0x368.6mm (3.58'' x 14.51'') (Without sunshield), 2.48Kg (5.47lb)	Ø180x125mm(7.09x4.92''), 1.90Kg (4.19lb)	Ø160x125mm(6.30x4.92''), 1.60Kg (3.53lb)	Ø205x163mm(8.07x4.92''), 1.95Kg (4.30lb)	81x67x165mm(3.19x2.64x6.48''), 0.88kg(1.94lb)
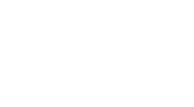
	PNO-A6081R 2MP AI IR Bullet Camera	PNV-A6081R 2MP AI IR Vandal Dome Camera	PND-A6081RV 2MP AI IR Dome Camera	PND-A6081RF 2MP AI IR Dome Camera	PNB-A6001 2MP AI Box Camera
Imaging Device	1/2″ CMOS	1/2″ CMOS	1/2″ CMOS	1/2″ CMOS	1/2″ CMOS
Resolution / Max. Frame Rate	2MP / 120fps	2MP / 120fps	2MP / 120fps	2MP / 120fps	2MP / 120fps
Min. Illumination	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) B/W : 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) B/W : 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) B/W: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.006Lux(F1.2, 1/30sec,30IRE), B/W : 0.0006Lux(F1.2, 1/30sec,30IRE), 30/25fps
Video Out	CVBS: 1.0 Vp–p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp–p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp–p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp–p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	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)	4.38~9.33mm(2.13x) motorized varifocal				–
Angular Field of View	H:103.1°(Wide)~44.5°(Tele) / V:54.2°(Wide)~24.9°(Tele) / D:124°(Wide)~51.1°(Tele)	H:103.1°(Wide)~44.5°(Tele) / V:54.2°(Wide)~24.9°(Tele) / D:124°(Wide)~51.1°(Tele)	H:103.1°(Wide)~44.5°(Tele) / V:54.2°(Wide)~24.9°(Tele) / D:124°(Wide)~51.1°(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°	0°~360° / –45°~85° / 0°~355°	–
IR Viewable Length	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	–
Day & Night	Auto (ICR)	Auto (ICR)	Auto (ICR)	Auto (ICR)	Auto (ICR)
Wide Dynamic Range	120dB	120dB	120dB	120dB	120dB
Digital Noise Reduction	WiseNR II(Based on AI engine),SSNR V				
Digital Image Stabilization	Support (built–in gyro sensor)	Support (built–in gyro sensor)	Support (built–in gyro sensor)	Support (built–in gyro sensor)	Support (built–in gyro sensor)
Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Person(Gender, Colour and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Colour) 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	People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine				
Alarm I/O	2 configurable I/O ports, DC 12V output(Max. 50mA)				
Audio I/O	Line in / Line out	Line in / Line out	Line in / Line out	Line in / Line out	Line in / Line out
Video Compression	Selectable (mic in/line in) / line out	Selectable (mic in/line in) / line out	Selectable (mic in/line in/built–in mic) / line out	Selectable (mic in/line in) / line out	Selectable (mic in/line in/built–in mic) / line out
WiseStream	Manual(5area), WiseStream II , WiseStream III (using AI engine)				
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)				
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB				
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform – WiseAI application included(Analytic based on AI, Business intelligence)				
Operating Temperature / Humidity	–50°C ~ +55°C(–58°F ~ +131°F) / Less than 90% RH * Start up should be done at above –30°C	–50°C ~ +55°C(–58°F ~ +131°F) / Less than 90% RH * Start up should be done at above –30°C	–25°C ~ +50°C (–13°F ~ +122°F) / Less than 90% RH	–25°C ~ +50°C (–13°F ~ +122°F) / Less than 90% RH	–10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH
Certification	IP66, IP67, IK10, NEMA4X	IP66, IP67, IP6K9K, IK10+, NEMA4X	IP52, IK10	IP52, IK10, Plenum rate	–
Power Consumption	PoE+: Max 19.50W, typical 16.00W 12VDC: Max 17.00W, typical 13.50W	PoE+: Max 19.50W, typical 16.00W 12VDC: Max 17.00W, typical 13.50W	PoE+: Max 19.50W, typical 16.00W 12VDC: Max 17.00W, typical 13.50W	PoE+: Max 19.50W, typical 16.00W 12VDC: Max 17.00W, typical 13.50W	PoE+: Max 17.5W, Typ 13.7W 12VDC: Max 14W, Typ 10.6W
Product Dimensions / Weight	Ø91.0x368.6mm (3.58'' x 14.51'') (Without sunshield), 2.48Kg (5.47lb)	Ø180x125mm(7.09x4.92''), 1.90Kg (4.19lb)	Ø160x125mm(6.30x4.92''), 1.60Kg (3.53lb)	Ø205x163mm(8.07x4.92''), 1.95Kg(4.30lb)	81x67x165mm(3.19x2.64x6.48''), 0.88kg(1.94lb)

PNM-C34404RQPZ — 4K 4CH PTRZ + 2MP 40x PTZ AI Camera | PNM-C16083RVQ — 4MP x 4CH AI Camera | PNM-C32083RVQ — 4K x 4CH AI Camera

	PNM-C34404RQPZ (PTRZ)	PNM-C34404RQPZ (PTZ)	PNM-C16083RVQ	PNM-C32083RVQ
Imaging Device	1/2.8" CMOS x 4CH	1/2.8" CMOS x 1CH PTZ	1/2.8" CMOS x 4CH	1/2.8" CMOS x 4CH
Resolution / Max. Frame Rate	8MP/20fps	2MP / 60fps	4MP / 30fps	[AI On] 8MP Max. 15fps [AI Off] 8MP Max. 20fps
Min. Illumination	Colour: 0.1Lux(F1.5, 1/30sec, 30IRE) BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.075Lux(F1.5, 1/30sec, 30IRE) BW: 0.0075Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.1Lux(F1.5, 1/30sec, 30IRE) BW: 0.01Lux(F1.5, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	–		USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	3.3~5.7mm(1.7x) motorized varifocal	4.25~170mm(40x) zoom(digital 32x, total 1280x zoom)	3.3~5.7mm(1.7x) motorized varifocal	3.3~5.7mm(1.7x) motorized varifocal
Angular Field of View	H: 109°(Wide)~56°(Tele) 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: 99.8°(Wide)~53.0°(Tele) V: 53.8°(Wide)~30.7°(Tele) D: 124.3°(Wide)~61.8°(Tele)	H: 108.3°(Wide)~56.4°(Tele) V: 54.7°(Wide)~31.2°(Tele) D: 135.5°(Wide)~65.2°(Tele)
Pan / Tilt / Rotate	0°~360° / 9°~65° / 0°~90° * Tilt angle with Shield IR: 40°~65°	0°~360° / –20°~90°	0~360° / 0~73° / 0~90°	0~360° / 0~73° / 0~90°
IR Viewable Length	20m (65.62ft)	WiseIR 200m (656.17ft)	WiseIR 15m(49.21ft)	WiseIR 15m(49.21ft)
Day & Night	Auto (ICR)		Auto(ICR)	Auto (ICR)
Wide Dynamic Range	120dB	extremeWDR (150dB)	120dB	120dB
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V		WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	–	Support	–	–
Analytics	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, 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). Analytics events: Defocus detection, Motion detection, Tampering, Virtual area(Appear/Disappear)	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, 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	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) / –	Selectable(mic in/line in) / –
Video Compression	H.265/H.264, MJPEG	H.265/H.264, MJPEG	H.265/H.264, MJPEG	H.265/H.264, MJPEG
WiseStream	Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)		Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)	Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)
Streaming	Unicast(10 users) / Multicast Multiple streaming (Up to 3 profiles)	Unicast(20 users) / Multicast Multiple streaming (Up to 10 profiles)	Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per channel)	Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per channel)
Edge Storage	Micro SD/SDHC/SDXC 2slot 1TB(512GBx2)		Micro SD/SDHC/SDXC 2slot Max. 2TB(1TBx2)	Micro SD/SDHC/SDXC 2slot Max. 2TB(1TBx2)
Application Programming Interface	ONVIF Profile S/T, SUNAPI (HTTP API) Hanwha Vision Open Platform		ONVIF Profile S/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/T/M, SUNAPI(HTTP API) Wisenet 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 0~95% RH(non-condensing) Humidity control with AIR vent	-40°C~+55°C(-40°F~+131°F) * Start up should be done at above -35°C 0~95% RH(non-condensing) Humidity control with AIR vent
Certification	IP66, IK10, NEMA4X		IP66, IK10, NEMA4X	IP66, IK10, NEMA4X
Power Consumption	HPoE: Max 64.00W, typical 45.00W		PoE+: Max 25.5W, typical 22.0W PoE++: Max 33.0W, typical 22.0W	PoE+: Max 25.5W, typical 22.0W PoE++: Max 33.0W, typical 22.0W
Product Dimensions / Weight	ø 140x110.2mm(ø 5.51x4.34"), 875g(1.93 lb)		ø 250x114.2mm(ø 9.84x4.50"), 2730g(6.02 lb)	ø 250x114.2mm(ø 9.84x4.50"), 2820g(6.22 lb)

PNM-C16013RVQ — 4MP x 4CH AI Camera | PNM-C16083RQZ — 4MP x 4CH PTRZ Multi-directional Camera (NEW) | PNM-C32083RQZ — 8MP x 4CH PTRZ Multi-directional Camera (NEW)

	PNM-C16013RVQ	PNM-C16083RQZ	PNM-C32083RQZ
Imaging Device	1/2.8" CMOS x 4CH	1/2.8" CMOS x 4CH	1/1.8" CMOS x 4CH
Resolution / Max. Frame Rate	4MP/15fps	4MP / 30fps	[AI On] 8MP Max. 15fps [AI Off] 8MP Max. 20fps
Min. Illumination	Colour: 0.05Lux(F1.2, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.1Lux(F1.6, 1/30sec, 30IRE) BW: 0.01Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.07Lux(F1.3, 1/30sec, 30IRE) BW: 0Lux(IR LED on)
Video Out	USB: Micro USB Type B, 2592x1520 for installation	–	–
Focal Length (Zoom Ratio)	3.19mm fixed focal	3.2~10.2mm(3.2x) motorized varifocal	4.38~9.33mm(2.13x) motorized varifocal
Angular Field of View	H: 97° / V: 54° / D: 116°	H: 93° (Wide)~29° (Tele) V: 53° (Wide)~17° (Tele) D: 111° (Wide)~34° (Tele)	H: 113° (Wide)~47° (Tele) V: 58° (Wide)~26° (Tele) D: 138° (Wide)~54° (Tele)
Pan / Tilt / Rotate	0~360° (100° per CH)/ 0~75° / 0~90°	Remote adjustment(Max. 200cycles) 0° ~360° / 30° ~90° / 0° ~90°	
IR Viewable Length	20m(65.62ft)	WiseIR: PoE++ 20m(65.62ft) / PoE+ 15m(49.21ft)	WiseIR: PoE++ 25m(82.02ft) / PoE+ 15m(49.21ft)
Day & Night	Auto (ICR)	Auto(ICR)	
Wide Dynamic Range	120dB	120dB	
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V	SSNR V, WiseNR II (Based on AI engine)	
Digital Image Stabilization	–	–	
Analytics	Classified object type: Person/Face/Vehicle/License plate. Attributes: Vehicle (Type: Car/Bus/Truck/Motorcycle/Bicycle). 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, Virtual area(Appear/Disappear) Audio detection, Sound classification (with NW I/O box SPM-4210)	Classified object type: Person/Face/Vehicle/License plate. Attributes: Vehicle(Type: car/bus/truck/motorcycle/bicycle, Color), Person (clothing 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, Virtual area (Appear/Disappear) * Audio detection, Sound classification(with NW I/O box SPM-4210)	
Business Intelligence	–	–	
Alarm I/O	2 configurable I/O ports * Support extra alarm I/O via optional SPM-4210 I/O box	2 configurable I/O ports * Support Alarm via optional SPM-4210 I/O box	
Audio I/O	Selectable(mic in/line in) / –	* Support Audio via optional SPM-4210 I/O box	* Support Audio via optional SPM-4210 I/O box
Video Compression	H.265 / H.264, MJPEG	H.265/H.264: Main/High, MJPEG	
WiseStream	Manual(Sea area), WiseStream II, WiseStream III (Based on AI engine)	Manual(Sea area), WiseStream III	
Streaming	Up to 4 profiles per channel	Unicast(10 users) / Multicast Multiple streaming(Up to 3 profiles per CH)	
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)	
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	
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) * Start up should be done at above -35°C 0~95% RH(non-condensing) Humidity control with AIR vent	-40° C~+55° C(-40° F~+131° F) / 0~100% RH(condensing) * Start up should be done at above -35° C Humidity control /w AIR vent	-40° C~+55° C(-40° F~+131° F) / 0~100% RH(condensing) * Start up should be done at above -20° C Humidity control / w AIR vent
Certification	IP66, NEMA4X, IK09	IP66, NEMA4X, IK10	
Power Consumption	PoE+: Max 23.5W, typical 13W	PoE++: Max 41.0W, Typical 22.0W PoE+: Max 25.5W, Typical 22.0W	
Product Dimensions / Weight	ø 200x80mm(ø 7.87x3.15"), 1380g(3.04 lb)	ø 312.7x145.9mm(ø 12.31x5.74") / 4400g(9.7lb)	

AI Camera

	PNM-C12083RVD 6MP x 2CH AI Multi-directional Camera	PNM-C7083RVD 2MP x 2CH AI Multi-directional Camera	PNM-C9022RV 2MP x 4CH AI Panoramic Camera
Imaging Device	1/2.8˝ CMOS x 2CH	1/2.8˝ CMOS x 2CH	1/2.8˝ CMOS x 4CH
Resolution / Max. Frame Rate	6MP / 15fps	2MP / 30fps	2MP / 20fps x 4CH
Min. Illumination	Colour: 0.16lux(F1.67, 1/30sec, 30IRE) BW: 0.016lux(F1.67, 1/30sec, 30IRE), 0lux(IR LED on)	Colour: 0.035lux(F2.2, 1/30sec, 30IRE) BW: 0.0035lux(F2.2, 1/30sec, 30IRE), 0lux(IR LED on)	Colour: 0.1Lux(F2.0, 1/30sec) BW: 0.01Lux(F2.0, 1/30sec), 0LUX(IR LED on)
Video Out	USB: micro USB Type B, 1280x720 for installation	USB: micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	3.54~6.69mm(1.9x) motorized varifocal	3~6mm(2x) motorized varifocal	2.8mm fixed focal(x4)
Angular Field of View	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)	H: 209° / V: 60°
Pan / Tilt / Rotate	0° ~ 355° /0° ~ 78° /0° ~180°	0° ~ 355° /0° ~78° /0° ~ 180°	0° ~ 360° / 0° ~ 65° / –
IR Viewable Length	25m(82ft)	25m(82ft)	20m (65.62ft)
Day & Night	Auto (ICR)	Auto (ICR)	Auto (ICR)
Wide Dynamic Range	extremeWDR (120dB)	extremeWDR (120dB)	extremeWDR (120dB)
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	–	–	–
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 – 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	Support Alarm via optional SPM-4210 I/O box	Support Alarm via optional SPM-4210 I/O box	2 configurable I/O ports
Audio I/O	Audio in/out via optional SPM-4210 I/O box	Audio in/out via optional SPM-4210 I/O box	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG		
WiseStream	WiseStream II , WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream II , WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream II , WiseStream III (Based on AI engine)
Streaming	Unicast (10 users) / Multicast 5 profiles per channel	Unicast(10 users) / Multicast 5 profiles per channel	Unicast(20 users) / Multicast Multiple streaming (Up to 3 profiles, 2 virtual channel support)
Edge Storage	micro SD/SDHC/SDXC 1slot Max. 512GB	micro SD/SDHC/SDXC 1slot Max. 512GB	micro SD/SDHC/SDXC 2slot Max. 1TB(512GB * 2)
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) Open platform	ONVIF Profile S/T, SUNAPI(HTTP API) Open platform	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / Less than 95% RH(Non-condensing)	-40°C~+55°C(-40°F~+131°F) / Less than 95% RH(Non-condensing)	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing)
Certification	IP66, IP67, NEMA4X, IK10	IP66, IP67, NEMA4X, IK10	IP66, IK10, NEMA4X
Power Consumption	PoE+: Max 21W, typical 16.5W	PoE+: Max 20W, typical 15.5W	PoE+: Max 24.5W, typical 11.3W 12VDC: Max 22.0W, typical 10.4W Power redundancy failover
Product Dimensions / Weight	215(W)x135(D)x93.2(H)mm(8.46˝x5.31˝x3.67˝), 1330g	215(W)x135(D)x93.2(H)mm(8.46˝x5.31˝x3.67˝), 1330g	ø253x170mm(9.96˝x6.69˝), 2900g(6.39lb)

AI Camera

	QNE-C9013RL 8MP AI Dual Light Flateye Camera	QNE-C8013RL 5MP AI Dual Light Flateye Camera	QNO-C9083R 8MP AI IR Bullet Camera	QNO-C8083R 5MP AI IR Bullet Camera	QNO-C6083R 2MP AI IR Bullet Camera
Imaging Device	1/2.8˝ CMOS				
Resolution / Max. Frame Rate	8MP / 30fps	5MP/30fps	8MP/30fps	5MP/30fps	2MP/30fps
Min. Illumination	Colour: 0.034lux (F1.6, 1/30sec) BW: 0.0034Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.022Lux (F1.2, 1/30sec) BW: 0.0022Lux (F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.06Lux(F1.6, 1/30sec, 30IRE) BW: 0.006Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.07Lux(F1.6, 1/30sec, 30IRE) BW: 0.007Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux (F1.6, 1/30sec) BW: 0.004Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	–	–	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	3.0mm fixed focal	3.0mm fixed focal	3.2~10.2mm(3.2x) motorized varifocal	3.2~10.2mm(3.2x) motorized varifocal	3.2~10.2mm(3.2x) motorized varifocal
Angular Field of View	H: 108°/ V: 59°/ D: 127°	H: 97° / V: 53° / D: 113°	H: 104°(Wide)~31°(Tele) 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)~32.2°(Tele) V: 54.2°(Wide)~18.3°(Tele) D: 119.0°(Wide)~36.7°(Tele)
Pan / Tilt / Rotate	0°~350° / 0°~75° / 0°~360°	0°~ 350° / 0°~75° / 0°~360°	0°~ 360° / 0°~ 100° / 0°~360°	0°~360° / 0°~100° / 0°~360°	0°~360° / 0°~100° / 0°~360°
IR Viewable Length	White LED : 30m(98.42ft) IR : 30m(98.42ft)	White LED : 30m(98.42ft) IR : 30m(98.42ft)	30m(98.42ft)	30m(98.42ft)	40m(131.23ft)
Day & Night	Auto(ICR)				
Wide Dynamic Range	120dB	120dB	120dB	120dB	120dB
Digital Noise Reduction	SSNR V , WiseNR II (Based on AI engine)	SSNR V , WiseNR II (Based on AI engine)	SSNR V , WiseNR II (Based on AI engine)	SSNR V , WiseNR II (Based on AI engine)	SSNR V , WiseNR II (Based on AI engine)
Digital Image Stabilization	–	–	–	–	–
Analytics	Classified object type: Person/Vehicle Attributes: Person, Vehicle(Type: car/bus/truck/motorcycle/bicycle) 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, Motion Detection Analytics events – Defocus detection, Tampering, 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 counting, Vehicle counting, Queue management, Heatmap				
Alarm I/O	–	–	Input 1ea / Output 1ea	Input 1ea / Output 1ea	Input 1ea / Output 1ea
Audio I/O	–	–	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)				
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)				
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Hanwha Vision Open Platform				
Operating Temperature / Humidity	-40°C~+60°C(-40°F~+140°F) / 0~95% RH * Start up should be done at above -30°C Humidity control with AIR vent	-40°C~+60°C(-40°F~+140°F) / 0~95% RH * Start up should be done at above -30°C Humidity control with AIR vent	-30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing) Humidity control with AIR vent
Certification	IP66/IP67, IK10	IP66/IP67, IK10	IP66, IK10	IP66, IK10	IP66, IK10
Power Consumption	PoE: Max 10.0W, typical 4.5W	PoE: Max 10.0W, typical 4.5W	PoE: Max 12W, typical 5.3W	PoE: Max 12W, typical 5.3W	PoE: Max 8.9W, typical 3.7W
Product Dimensions / Weight	ø140.0x99.6mm(ø5.51x3.92˝), 790g(1.74 lb)	ø140.0x99.6mm(ø5.51x3.92˝), 790g(1.74 lb)	ø93.4x245.8mm(ø3.68x9.68˝), 930g(2.05 lb)	ø93.4x245.8mm(ø3.68x9.68˝), 930g(2.05 lb)	ø93.4x245.8mm(ø3.68x9.68˝), 930g(2.05 lb)

	QNV-C9083R 8MP AI IR Vandal Dome Camera	QNV-C8083R 5MP AI IR Vandal Dome Camera	QNV-C6083R 2MP AI IR Vandal Dome Camera	QNV-C9011R 8MP AI IR Vandal Dome Camera
Imaging Device	1/2.8˝ CMOS			
Resolution / Max. Frame Rate	8MP / 30fps	5MP / 30fps	2MP / 30fps	8MP / 30fps
Min. Illumination	Colour: 0.06Lux(F1.6, 1/30sec, 30IRE) BW: 0.006Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.07Lux(F1.6, 1/30sec, 30IRE) BW: 0.007Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.04Lux (F1.6, 1/30sec) BW: 0.004Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation HDMI: 1080p@30/25fps (60/50Hz) * HDMI out is supported through an optional cable(SPP-C1900)	USB: Micro USB Type B, 1280x720 for installation
Focal Length (Zoom Ratio)	3.2~10.2mm(3.2x) motorized varifocal	3.2~10.2mm(3.2x) motorized varifocal	3.2~10.2mm(3.2x) motorized varifocal	3.0mm 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)~32.2°(Tele) V: 54.2°(Wide)~18.3°(Tele) D: 119.0°(Wide)~36.7°(Tele)	H: 108°/ V: 59°/ D: 127°
Pan / Tilt / Rotate	0°~350° / -35°~70° / 0°~355°	0°~350° / -35°~70° / 0°~355°	0°~350° / -35°~70° / 0°~355°	0°~350° / -35°~70° / 0°~355°
IR Viewable Length	30m(98.42ft)	30m(98.42ft)	40m(131.23ft)	20m(65.62ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	120db			
Digital Noise Reduction	SSNR V , WiseNR II (Based on AI engine)			
Digital Image Stabilization	–			
Analytics	**Classified object type:** Person/Vehicle **Attributes:** Person, Vehicle(Type: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	Input 1ea / Output 1ea * Alarm I/O is supported through an optional cable(SPP-C7400)			–
Audio I/O	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	
Video Compression	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream III	Manual(5ea area), WiseStream III (Based on AI engine)
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)			
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB
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) / 0~95% RH(non-condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing) * Start up should be done at above -30°C Humidity control with AIR vent	-40°C~+55°C(-40°F~+131°F) / 0~95% RH(non-condensing) 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 Humidity control with AIR vent vapor control
Certification	IP66, IK10	IP66, IK10	IP66, IK10	IP66, IK10, NEMA4X
Power Consumption	PoE: Max 12.95W, typical 5.3W	PoE: Max 12.95W, typical 5.3W	PoE: Max 9.8W, typical 4.0W	PoE: Max 8.5W, typical 4.9W
Product Dimensions / Weight	ø140x110.2mm(ø5.51x4.34˝), 875g(1.93 lb)	ø140x110.2mm(ø5.51x4.34˝), 875g(1.93 lb)	ø140x110.2mm(ø5.51x4.34˝), 850g(1.87 lb)	ø110x77mm(ø4.33x3.03˝), 522g(1.15 lb)

	QNV-C8011R 5MP AI IR Vandal Dome Camera	QNV-C8012 5MP AI IR Vandal Dome Camera	TNO-C8083E 5MP AI Explosion-proof bullet camera
Imaging Device	1/2.8˝ CMOS	1/2.8˝ CMOS	1/2.8˝ 5MP CMOS
Resolution / Max. Frame Rate	5MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Colour: 0.03Lux(F1.6, 1/30sec, 30IRE) BW: 0.003Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.05Lux(F2.0, 1/30sec, 30IRE) BW: 0.005Lux(F2.0, 1/30sec, 30IRE)	Colour: 0.07Lux(F1.6, 1/30sec, 30IRE) BW: 0.007Lux(F1.6, 1/30sec, 30IRE)
Video Out	USB: Micro USB Type B, 1280x720 for installation	USB: Micro USB Type B, 1280x720 for installation	–
Focal Length (Zoom Ratio)	3.0mm fixed focal	2.4mm fixed focal	3.2~10.2mm(3.2x) motorized varifocal
Angular Field of View	H: 100°/ V: 73°/ D: 129°	H: 123°/ V: 91°/ D: 159°	H: 95°(Wide)~29°(Tele) V: 69°(Wide)~21°(Tele) D: 126°(Wide)~36°(Tele)
Pan / Tilt / Rotate	0°~350° / -35°~70° / 0°~355°	0°~350° / -35°~70° / 0°~355°	–
IR Viewable Length	20m(65.62ft)	–	–
Day & Night	Auto(ICR)		
Wide Dynamic Range	120dB		
Digital Noise Reduction	SSNR V , WiseNR II (Based on AI engine)		
Digital Image Stabilization	–	–	–
Analytics	**Classified object type:** Person/Vehicle **Attributes:** Person, Vehicle(Type: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	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	Manual(5ea area), WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream III (Based on AI engine)
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)	Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)	Unicast(20 users) / Multicast Multiple streaming(Up to 5profiles)
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 256GB	
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API) Hanwha Vision Open Platform		ONVIF Profile S/T/M SUNAPI(HTTP API)
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~95% RH * Start up should be done at above -30°C Humidity control /w Air vapor control	-40°C~+55°C(-40°F~+131°F) / 0~95% RH * Start up should be done at above -30°C Humidity control /w Air vapor control	-30°C~+55°C(-22°F~+131°F) / 0~95% RH(non-condensing) * Start up should be done at above -30°C
Certification	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X	CE, KC, IP66, IK10, ATEX, II 2 G Ex db IIC T6 Gb II 2 D Ex tb IIC T80°C Db IECEx, Ex db IIC T6 Gb, Ex tb IIC T80°C Db, JPEx, KCs
Power Consumption	PoE: Max 7W, typical 4.9W	PoE: Max 7W, typical 4.9W	PoE: Max 9.50W, typical 5.30W
Product Dimensions / Weight	ø110x77mm(ø4.33x3.03˝), 522g(1.15 lb)	ø110x77mm(ø4.33x3.03˝), 522g(1.15 lb)	ø110.5x316.2mm(ø4.35x12.44˝), 4770g(10.51 lb)

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

QVGA Radiometric AI Thermal Camera

	TNO-C3032TRA	TNO-C3022TRA	TNO-C3012TRA	TNO-C3030TRA	TNO-C3020TRA	TNO-C3010TRA
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14㎛)					
Resolution	768x576, 384x288(original)					
Max. Frame Rate	8fps			30fps		
NETD	< 30mK					
Pixel pitch	17㎛					
Focal Length	9.7mm fixed focal	6.6mm fixed focal	4.4mm fixed focal	9.7mm fixed focal	6.6mm fixed focal	4.4mm fixed focal
Angular Field of View	H: 37.9° / V: 28.7° / D: 46.7° (iFoV: 1.8 mRad)	H: 60° / V: 43.8° / D: 77.8° (iFoV: 2.6 mRad)	H: 90° / V: 65.3° / D: 118.6° (iFoV: 3.9 mRad)	H: 37.9° / V: 28.7° / D: 46.7° (iFoV: 1.8 mRad)	H: 60° / V: 43.8° / D: 77.8° (iFoV: 2.6 mRad)	H: 90° / V: 65.3° / D: 118.6° (iFoV: 3.9 mRad)
Min. Object Distance	2.8m	1.4m	0.6m	2.8m	1.4m	0.6m
Video out	USB: Micro USB Type B, 768x576 for installation					
Analytics	**Classified object type**: Person/Vehicle **Support BestShot** **Analytics events based on AI engine** – WiseMD, 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) * Some of the video analytics only works with people and vehicle detection					
Alarm I/O	2 configurable I/O ports					
Audio I/O	Selectable(mic in/line in) Line out					
Temparature Detect Range	-40℃~550℃(-40°F~1,022°F)					
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, whole FoV area					
Additional	Hybrid palettes, Spot temperature reading (ROI condition monitoring: Above/Below/Increase/Decrease)					
WiseStream	Manual(Sea area), WiseStream II , WiseStream III (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°F~+140°F) / 0~95% RH(non-condensing)					
Certification	IP66, IK10, NEMA4X					
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"), 1700g(3.75 lb)					

Bi-spectrum AI Thermal Camera

	TNM-C4960TD		TNM-C4950TD	
	Thermal	Visible	Thermal	Visible
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14㎛, 12㎛, <60mK)	1/1.8" CMOS	Uncooled micro bolometer (Spectral range: 8~14㎛, 12㎛, <60mK)	1/1.8" CMOS
Resolution / Max. Frame Rate	640x480 / 30fps	3840x2160 / 30fps	640x480 / 30fps	3840x2160 / 30fps
Min. Illumination	–	Colour: 0.06Lux(F1.7, 1/30sec) BW: 0.005Lux(F1.7, 1/30sec)	–	Colour: 0.06Lux(F1.7, 1/30sec) BW: 0.005Lux(F1.7, 1/30sec)
Video Out	USB : Micro USB Type B, 1280x720 for installation		USB : Micro USB Type B, 1280x720 for installation	
Focal Length (Zoom Ratio)	25mm fixed focal	10.9~29mm(2.6x) motorized varifocal	13.5mm fixed focal	10.9~29mm(2.6x) motorized varifocal
Angular Field of View	H: 17.4°, V: 13.1°, D: 21.6° (iFoV: 0.48 mRad)	H:42.0°(Wide)~15.0°(Tele) / V:22.8°(Wide)~8.4°(Tele) / D:48.7°(Wide)~17.1°(Tele)	H: 31.9°V: 24.2°, D: 39.5° (iFoV: 0.89 mRad)	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°/ –		-170°~+170°/-40°~50°/ –	
IR Viewable Length	–		–	
Day & Night	–	Auto(ICR)	–	Auto(ICR)
Wide Dynamic Range	–	WDR(120dB)	–	WDR(120dB)
Digital Noise Reduction	–	SSNR V, WiseNR II	–	SSNR V, WiseNR II
Digital Image Stabilization	–	Support(built-in gyro sensor)	–	Support(built-in gyro sensor)
Analytics	**Analytics events based on AI engine** : Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam **Analytics events** : Motion 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(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection	**Analytics events based on AI engine** : Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/ Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam **Analytics events** : Motion 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(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection
Business Intelligence	Vehicle counting		Vehicle counting	
Alarm I/O	4 configurable I/O ports		4 configurable I/O ports	
Audio I/O	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms		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		H.265/H.264: Main/High, MJPEG	
WiseStream	WiseStream II	Manual(Sea area), WiseStream III	WiseStream II	Manual(Sea area), WiseStream III
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)		Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)	
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB		micro SD/SDHC/SDXC 2slots 512GB	
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform (visible channel only)			
Operating Temperature / Humidity	-40℃ to +60℃(-58°F to +140°F) * Start up should be done at above -30℃ less than 95% RH(non-condensing)		-40℃ to +60℃(-58°F to +140°F) * Start up should be done at above -30℃ less than 95% RH(non-condensing)	
Certification	IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)		IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)	
Power Consumption	PoE+ : Max 23.5W, Typ 16.0W 12VDC : Max 19.5W, Typ 14.0W		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")/ 4.53kg(9.99lb)		353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")/ 4.53kg(9.99lb)	

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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 (Spectral range: 8~14μm, 12μm, <60mK)	1/1.8" CMOS	Uncooled micro bolometer (Spectral range: 8~14μm, 12μm, <60mK)	1/1.8" CMOS
Resolution / Max. Frame Rate	640x480 / 30fps	3840x2160 / 30fps	640x480 / 8fps	3840x2160 / 30fps
Min. Illumination	–	Colour: 0.06Lux(F1.3, 1/30sec) BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)	–	Colour: 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, 1280x720 for installation	
Focal Length (Zoom Ratio)	9.1mm fixed focal	4.4~9.3mm(2.2x) motorized varifocal	9.1mm fixed focal	4.4~9.3mm(2.2x) motorized varifocal
Angular Field of View	H: 50.0°/ V: 37.0°/ D: 63.8° (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	–	30m (98.42ft)	–	30m (98.42ft)
Day & Night	–	Auto(ICR)	–	Auto(ICR)
Wide Dynamic Range	–	WDR(120dB)	–	WDR(120dB)
Digital Noise Reduction	–	SSNR V, WiseNR II	–	SSNR V, WiseNR II
Digital Image Stabilization	–	Support(built-in gyro sensor)	–	Support(built-in gyro sensor)
Analytics	Analytics events based on AI engine : Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/ Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam. Analytics events : Motion 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(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(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		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		Selectable(mic in/line in) Line out Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms	
Video Compression	H.265/H.264: Main/High, MJPEG		H.265/H.264: Main/High, MJPEG	
WiseStream	WiseStream II	Manual(5ea area), WiseStream III	WiseStream II	Manual(5ea area), WiseStream III
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)		Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)	
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB		Micro SD/SDHC/SDXC 2slots 512GB	
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform (visible channel only)			
Operating Temperature / Humidity	–40°C to +60°C(–58°F to +140°F) * Start up should be done at above –30°C less than 95% RH(non-condensing)		–40°C to +60°C(–58°F to +140°F) * Start up should be done at above –30°C less than 95% RH(non-condensing)	
Certification	IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)		IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)	
Power Consumption	PoE+ : Max 25.5W, Typ 16.0W 12VDC : Max 21.5W, Typ 14.0W		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") / 4.53kg(9.99lb)		353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53") / 4.53kg(9.99lb)	

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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" 2MP CMOS
Resolution / Max. Frame Rate	640x480 / 30fps	3840x2160 / 30fps	320x240/ 8fps	1920x1080 / 30fps
Min. Illumination	–	Colour: 0.06Lux(F1.3, 1/30sec) BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)	–	Colour: 0.05 lux(F1.6, 1/30sec) B/W: 0.005 Lux(F1.6, 1/30sec)
Video Out	USB : Micro USB Type B, 1280x720 for installation		CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB : Micro USB Type B, 1280x720 for installation	
Focal Length (Zoom Ratio)	9.1mm fixed focal	4.4~9.3mm(2.2x) motorized varifocal	4.7mm fixed focal	4mm fixed focal
Angular Field of View	H: 50.0°/ V: 37.0°/ D: 63.8° (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)	–	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(Appear/Disappear). * Some of the video analytics only works with people and vehicle detection	Directional detection, Motion detection, Enter/Exit, Virtual line, Temperature detection	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection AI based Object detection (person/face, visible channel only)
Business Intelligence	–			
Alarm I/O	4 configurable I/O ports		Input 1ea / Output 2ea	
Audio I/O	Selectable (mic in/line in) / Line out		Selectable (mic in/line in) / Line out	
Video Compression	H.265/H.264: Main/High, MJPEG		H.265/H.264: Main/Baseline/High, MJPEG	
WiseStream	WiseStream II	Manual(5ea area), WiseStream III	WiseStream II	Manual(5ea area), WiseStream II
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)		Unicast(20 users) / Multicast Multiple streaming(Up to 6 profiles)	
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB		Micro SD/SDHC/SDXC 1slot 256GB	
Application Programming Interface	ONVIF Profile S/T SUNAPI(HTTP API) Hanwha Vision Open Platform (visible channel only)		ONVIF Profile S/T/M SUNAPI(HTTP API)	
Operating Temperature / Humidity	–40°C to +60°C (–58°F to +140°F) * Start up should be done at above –30°C 0~95% RH(non-condensing)		–10°C~+55°C(+14°F~+131°F) / Less than 95% RH	
Certification	IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)		–	
Power Consumption	PoE+ : Max 25.5W, Typ 16.0W / 12VDC : Max 21.5W, Typ 14.0W		PoE+: Max. 17.0W, typical 12.5W / 12VDC: Max. 14.5W, typical 11.0W	
Product Dimensions / Weight	353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53"), 4.53kg(9.99lb)		135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1.7kg(3.77lb)	

	TNM-C3620TDR	TNO-A26081 (NEW)	TNV-C7013RC	TNV-C8011RW
	Radiometric Bi-spectrum AI Thermal Camera	**Ultra-resolution 26MP T AI camera**	**AI Corner Mount Camera**	**AI Wall Mount Camera**
Imaging Device	Thermal: Uncooled micro bolometer (Spectral range: 8~14㎛, 12㎛, <50mK) / Visible: 1/2.8" 2MP CMOS	Diagonal 28.3mm 1.8" CMOS	1/1.8" progressive CMOS	1/2.8" progressive 5MP CMOS
Resolution / Max. Frame Rate	Thermal: 320×240 / 30fps / Visible: 1920×1080 / 30fps	26MP / 30fps	3MP / 30fps	5MP / 30fps
Min. Illumination	Visible: Colour: 0.05lux(F1.6, 1/30sec) B/W: 0.005 lux(F1.6, 1/30sec)	Color: 0.2Lux(F4.0, 1/30sec) B/W: 0.02Lux(F4.0, 1/30sec)	Colour: 0.04Lux(F2.0, 1/30sec, 30IRE) BW: 0.04Lux(F2.0, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 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, 720x480(N), 720x576(P) for installation; USB: Micro USB Type B, 1280x720 for installation	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°	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	–	–	Wise IR 15m (49.21ft), invisible 940mm wavelength	15m(49.21ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto (ICR)	Auto(ICR)
Wide Dynamic Range	extremeWDR(150dB)	–	extremeWDR (120dB)	120dB
Digital Noise Reduction	SSNR V	SSNR V, 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(built-in gyro sensor)	Support		Support
Analytics	Thermal: Directional detection, Motion detection, Enter/Exit, Virtual line, Temperature detection / Visible: Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection, AI based Object detection (person/face, visible channel only)	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), Motion detection 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/License plate Support DetectionShot 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), Clothes colour detection (Orange/Black/Red, @400lux)	Classified object type: Person/Face/Vehicle Attributes: Vehicle(Type: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, Shock detection, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection
Business Intelligence	–	Based on AI engine: People counting, Queue management, Heatmap, Vehicle counting		Based on AI engine: People counting, Queue management, Heatmap
Alarm I/O	Input 1ea / Output 2ea	2 configurable I/O ports	2 configurable I/O ports * Support Alarm via optional SPM-4210 I/O box	–
Audio I/O	Selectable (mic in/line in) / Line out	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K OhmLine out, Max.output level: 1Vrms	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: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	WiseStream II / Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream II, WiseStream III (Based on AI engine)	Manual(5ea area), WiseStream III (Based on AI engine)
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 6 profiles)	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)	Up to 10 profiles, 3 virtual channel support	Unicast(20 users) / Multicast Multiple streaming(Up to 5 profiles)
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 1slot 1TB	Micro SD/SDHC/SDXC 1slot 256GB
Application Programming Interface	ONVIF Profile S/T/M SUNAPI(HTTP API)	ONVIF Profile S/G/T/M SUNAPI(HTTP API)	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/G/T/M SUNAPI(HTTP API)
Operating Temperature / Humidity	-10℃~+55℃(+14℉~+131℉) / Less than 95% RH	-40℃ ~+55℃ C (-40℉ F~+131℉ F) / 0~100% RH(condensing) Humidity control /w Air vent	-10℃ ~ +55℃ (14℉ ~ +131℉) 0~95% RH(non-condensing) Humidity control /w Air vent	-30℃ ~+55℃ (-22℉ ~+131℉) / Less than 95% RH
Certification		IP66, IP6K9K, IK10+	IP66, IP6K9K, IK10+	IP66, IK10
Power Consumption	PoE+: Max. 17.0W, typical 12.5W 12VDC: Max. 14.5W, typical 11.0W	PoE+: Max 44.3W, Typical 24.9W 12VDC: Max 35.4W, Typical 19.6W	PoE+: Max 12.95W, typical 9.7W DC: Max 12.7W, typical 9.0W	Max 11.5W / Typ 4.8W
Product Dimensions / Weight	135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1.7kg(3.77lb)	193.5x193.5x532mm(7.62"x7.62"x20.94"), 8100g(17.86lb)	198.3(W)x104.8(H)x198.6(D)mm (7.87"x4.13"x7.82"), 1,935g(4.27lb)	80(W)x167(H)x57(D)mm(3.15x6.56x2.24"), 600g(1.32lb)

	PNO-A9311RLP	PNO-A9081RLP	PNV-A9081RLP	PNB-A9001LP	TNO-7180RLP
	8MP 31x Zoom LPR/ANPR/MMCR IR Bullet Camera	**8MP AI LPR IR Bullet Camera**	**8MP AI LPR IR Vandal Dome Camera**	**8MP AI LPR Box Camera**	**3MP AI LPR Box Camera**
Imaging Device	1/1.8" CMOS	1/1.8" CMOS	1/1.8" CMOS	1/1.8" CMOS	1/1.8" CMOS, Global Shutter
Resolution / Max. Frame Rate	4K / 30fps	8MP / 30fps	8MP / 30fps	8MP / 30fps	3MP / 55fps
Min. Illumination	Colour: 0.075Lux(F1.36, 1/30sec, 30IRE) BW: 0.0075Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED on)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)	Colour: 0.03Lux(F1.2, 1/30sec) B/W: 0.003Lux(F1.2, 1/30sec)	Colour 0.1 Lux (1/30sec, gain 48dB)
Video Out	CVBS: 1.0 Vp-p, Micro USB Type B	CVBS: 1.0 Vp-p, Micro USB Type B	CVBS: 1.0 Vp-p, Micro USB Type B	CVBS: 1.0 Vp-p, Micro USB Type B	CVBS: 1.0 Vp-p, Micro USB Type B
Focal Length (Zoom Ratio)	6.91~214.7mm (31x) motorized varifocal	4.5~10mm(2.2x) motorized varifocal	4.5~10mm (2.2x) motorized varifocal	–	6.8~120mm(18x) motorized varifocal
Angular Field of View	H: 60.92°(Wide)~2.2°(Tele) 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:101.4°(Wide)~45.5°(Tele) V:53.6°(Wide)~25.5°(Tele) D:120.7°(Wide)~52.3°(Tele)	–	H: 54.5°(Wide)~3.4°(Tele) V: 42.3°(Wide)~2.5°(Tele)
Pan / Tilt / Rotate	–	–	0°~360° / -45°~85° / 0°~355°	–	–
IR Viewable Length	WiseIR 70m(229.66ft)	30m(98.42ft)	30m(98.42ft)	–	WiseIR 50m (164ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto (ICR)
Wide Dynamic Range	120dB	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	Wisenet Road AI application (Pre-installed), licence plate recognition, make/model/colour recognition, black/white list notification, smart search (number plate, country, brand, model, colour)				
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/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	Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/High, MJPEG	H.265 / H.264, MJPEG	H.265/H.264, MJPEG	H.265/H.264: Main/High, MJPEG	H.265 / H.264, MJPEG
WiseStream	Manual(5ea area), WiseStream II	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Micro SD/SDHC/SDXC 1slot (32GB Card preinstalled)	Up to 3 profiles	Up to 3 profiles	Up to 3 profiles	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC 1slot (32GB Card preinstalled)	Pre-installed with 32GB Micro SD to support 10,000 LPR images	Pre-installed with 32GB Micro SD to support 10,000 LPR images	Pre-installed with 32GB Micro SD to support 10,000 LPR images	Micro SD/SDHC/SDXC 1slot (32GB Card preinstalled)
Application Programming Interface	ONVIF Profile S/G/T/M, SUNAPI(HTTP API)	ONVIF Profile S/T, SUNAPI(HTTP API)	ONVIF Profile S/G/T SUNAPI(HTTP API)	ONVIF Profile S/G/T SUNAPI(HTTP API)	ONVIF Profile S/G/T SUNAPI(HTTP API)
Operating Temperature / Humidity	-40℃ ~ +55℃(-40℉ ~ +131℃) / Less than 90% RH * Start up should be done at above -30℃	-40℃ ~ +55℃(-40℉ ~ +131℉) / Less than 90% RH * Start up should be done at above -30℃	-40℃ ~ +55℃(-40℉ ~ +131℉) / Less than 90% RH * Start up should be done at above -30℃	-10℃ ~ +55℃(+14℉ ~ +131℉) / Less than 90% RH	-40℃ ~+55℃(-40℉ ~ +131℉) / Less than 95% RH(Noncondensing)
Certification	IP66/IP67, IK10, NEMA4X	IP66/IP67, IK10, NEMA4X	IP66/IP67/IP6K9K, IK10+, NEMA4X	–	IP66, IK10, NEMA 4X, NEMA TS 2 (2.2.8, 2.2.9)
Power Consumption	PoE+: Max 25.5W, typical 14.0W 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
Product Dimensions / Weight	Ø136.2x358.7mm(ø5.36x14.12"") (Without sunshield), 3200g(7.05lb) * backbox: ø160mm(ø6.30"")	Ø91.0x368.6mm (3.58" x 14.51") (Without sunshield), 2.48Kg (5.47lb)	Ø180x125mm(7.09x4.92"),1.90Kg (4.19lb)	81x67x165mm(3.19x2.64x6.48"), 0.88kg(1.94lb)	186.9(W) x259.3(H) x 293.7(D) (mm) / 4.8kg (10.5 lb)

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

	XNO-6080R/RW 2M IR Bullet Camera	XNO-6120R/RW 2MP IR Bullet Camera	XNO-6123R/RW 2MP IR Bullet Camera	XNO-C6083R/RW 2MP IR Bullet Camera	XNV-6080R/RW 2M IR Vandal Dome Camera	XNV-C6083R/RW 2MP IR Vandal Dome Camera
Imaging Device	1/2.8″ 2MP CMOS	1/2.8″ 2MP CMOS	1/2.8″ progressive CMOS	1/2.8″ progressive CMOS	1/2.8″ 2MP CMOS	1/2.8″ progressive CMOS
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 60fps	2MP / 120fps	2MP / 60fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Colour: 0.015 lux(F1.4, 1./30sec) / B/W: 0 Lux (IR LED On)	Colour: 0.03Lux(F1.6, 1/30sec) / BW: 0Lux(IR LED on)	Colour: 0.03 Lux (F1.6, 1/30 sec, 30IRE), 0 Lux (IR LED on)	Colour: 0.011 Lux (F1.4, 1/30sec, 30IRE), 0 Lux (IR LED on)	Colour: 0.015 lux(F1.4, 1./30sec), B/W: 0 Lux (IR LED On)	Colour: 0.011 Lux (F1.4, 1/30sec, 30IRE), 0 Lux (IR LED on)
Video Output	CVBS: 1.0 Vp-p, Micro USB Type B					
Focal Length	2.8~12mm(4.3x) motorized varifocal	5.2~62.4mm (Optical 12X) motorized varifocal	5.2~62.4mm(12x) zoom (digital 32x, total 384x zoom)	2.8~12mm(4.3x) motorized varifocal	2.8~12mm (4.3x) motorized varifocal lens	2.8~12mm (4.3x) motorized varifocal
Angular Field of View	H: 119.5°(Wide)~27.9°(Tele), V: 62.8°(Wide)~15.7°(Tele), T: 142.1°(Wide)~32.0°(Tele)	H: 54.58°(Wide)~5.30°(Tele) / V: 32.19°(Wide)~3.00°(Tele) / D: 61.41(Wide)~6.06(Tele)	H: 55°(Wide)~5°(Tele) / V: 33°(Wide)~3°(Tele) / D: 62°(Wide)~6°(Tele)	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), T: 142.1°(Wide)~32.0°(Tele)	H: 120°(Wide)~27°(Tele) / V: 63°(Wide)~15°(Tele) / D: 143°(Wide)~32°(Tele)
IR Viewable Length	50m(164.04ft)	70m(229.66ft)	90m(295.28ft)	40m(131.23ft)	50m(164.04ft)	40m(131.23ft)
Day & Night	Auto(ICR)					
Wide Dynamic Range	150dB					
Digital Noise Reduction	SSNRV	SSNRV	WiseNR II (Based on AI engine), SSNRV	WiseNR II (Based on AI engine), SSNRV	SSNRV	WiseNR II (Based on AI engine), SSNRV
Digital Image Stabilization	Support (built-in gyro sensor)	Support	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support	Support(built-in gyro sensor)
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)			Unicast(20 users) / Multicast Multiple 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, 3 virtual channel support)
Edge Storage	Pre-installed SD Card (Data storage for RoadWatch application)					
Operating Temperature	-40°C ~+55°C(-40°F ~+131°F) / Less than 90% RH	-40°C ~+55°C(-40°F ~+131°F) / Less than 90% RH * Start up should be done at above -35°C	-40°C ~+60°C(-40°F ~+140°F) * Start up should be done at above -30°C	-40°C ~+55°C(-40°F ~+131°F) * Start up should be done at above -20°C	-40°C ~+55°C(-40°F ~+131°F) / Less than 90% RH	-40°C ~+55°C(-40°F ~+131°F) * Start up should be done at above -20°C
Certification	IP67/IP66/NEMA 4X, IK10					
Power Consumption	PoE: Max 12.95W, 12VDC: Max 12W, 24VAC: Max 15W	PoE : Max 12.95W, 12VDC : Max. 12.5W, 24VAC : Max. 14.5W	PoE+: Max 19.5W, typical 15.5W; 12VDC: Max 16.5W, typical 13.1W; Power redundancy failover	PoE: Max 12.95W, typical 10.8W; 12VDC: Max 12.5W, typical 10.0W	PoE: Max 12.95W, 12VDC: Max 11.5W, 24VAC: Max 14W	PoE: Max 12.95W, typical 10.8W; 1 2VDC: Max 12.5W, typical 10.0W
Solution	RoadWatch					
Speed Description	Moderate speed	Regular speed	Urban traffic		Moderate speed	
Lane Coverage			1 lane (3.6m/12ft wide)			
Speed limit	up to 50km/h (30mph)	up to 90km/h (55mph)			up to 50km/h (30mph)	
Min. Forward Distance	7m (23ft)	17m (55ft)			7m (23ft)	
Max. Forward Distance	13m (42ft)	32m (105ft)			13m (42ft)	
Max. Horizontal Angle	30°					
Max Vertical Angle	30°					
Horizontal Offset	up to 4m (13ft)	up to 9.8m (32ft)			up to 4m (13ft)	
Camera Height	up to 4m (13ft)	up to 9.8m (32ft)			up to 4m (13ft)	

	PNV-A6081R-E1T 2MP Camera with 1TB Rugged SSD	PNV-A6081R-E2T 2MP Camera with 2TB Rugged SSD
	SolidEDGE AI Camera	
Imaging Device	1/2″ CMOS	1/2″ CMOS
Resolution / Max. Frame Rate	2MP/120fps	2MP/120fps
Min. Illumination	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) BW: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps	Colour: 0.007Lux(F1.3, 1/30sec, 30IRE) BW: 0.0007Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation
Focal Length (Zoom Ratio)	4.38~9.33mm(2.13x) motorized varifocal	4.38~9.33mm(2.13x) motorized varifocal
Angular Field of View	H: 104°(Wide)~44°(Tele) V: 55°(Wide)~24°(Tele) D: 124°(Wide)~51°(Tele)	H: 104°(Wide)~44°(Tele) V: 55°(Wide)~24°(Tele) D: 124°(Wide)~51°(Tele)
Pan / Tilt / Rotate Range	0°~360° / 0°~85° / 0°~355°	0°~360° / 0°~85° / 0°~355°
IR Viewable Length	40m(131.23ft)	40m(131.23ft)
Day & Night	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	120dB	120dB
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	–	–
Analytics	**Classified object type:** Person/Face/Vehicle/License plate Attributes: Person(Gender, Colour and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Colour) **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 **Analytics events** – Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) *Some of the video analytics only works with people and vehicle detection	
Business Intelligence	–	–
Alarm I/O	Input 1ea / Output 1ea	Input 1ea / Output 1ea
Audio I/O	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	Manual(5ea area), WiseStream III	Manual(5ea area), WiseStream III
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 5 profiles)	Unicast(6 users) / Multicast Multiple streaming(Up to 5 profiles)
Edge Storage	1TB SSD included(WAVE pre-installed) Possible to register the maximum number of camera – up to 6 camera(Host + 5 camera) – Total bandwidth: up to 33Mbps * Cannot support the camera when host camera use AI mode	2TB SSD included(WAVE pre-installed) Possible to register the maximum number of camera – up to 6 camera(Host + 5 camera) – Total bandwidth: up to 33Mbps * Cannot support the camera when host camera use AI mode
Application Programming Interface	ONVIF Profile S/T/M, SUNAPI(HTTP API)	ONVIF Profile S/T/M, SUNAPI(HTTP API)
Operating Temperature / Humidity	-30°C~+55°C(-22°F~+131°F) / 0~95%RH(non-condensing) * Start up should be done at above -20°C 'Humidity control with AIR Vent	
Certification	IP66/IP67/IP6K9K, NEMA4X, IK10	IP66/IP67/IP6K9K, NEMA4X, IK10
Power Consumption	PoE+: Max 19.2W, typical 14.4W / 12VDC: Max 17.5W, typical 12.7W Power redundancy failover	PoE+: Max 19.2W, typical 14.4W / 12VDC: Max 17.5W, typical 12.7W Power redundancy failover
Product Dimensions / Weight	ø 180x130mm(ø 7.09x5.12″), 1900g(4.19 lb)	ø 180x130mm(ø 7.09x5.12″), 1900g(4.19 lb)

AI Packs

NEW AI Pack **Retail & Business** Optimizing Businesses with Intelligent Insights	**NEW** AI Pack **Traffic (ITS)** Intelligent Monitoring for Safer Roads	**NEW** AI Pack **Factory & Safety** Real time Alerts for Safer Operations	**NEW** AI Pack **Blocked exit Detection** Securing Exits and Fire Extinguishers

FEATURED PRODUCT

	Retail & Business AI Pack	Traffic (ITS) AI Pack	Factory & Safety AI Pack	Blocked Exit Detection AI Pack
Installation App	Retail & Business WiseAI app	Traffic (ITS) WiseAI app	Factory & Safety WiseAI app	Licensed feature within camera WiseAI app
Licence Type	Perpertual	Perpertual	Perpertual	Perpertual
Ordering Part Number	AIA-C01RET	AIA-C01TRF	AIA-C01FAC	AIA-C01BLK
Supported Cameras	4K: PND-A9081RV/A9081RF, PNV-A9081R, PNO-A9081R, PND-A9081RVX, PNV-A9081RX, PNB-A9001 2MP: PND-A6081RV/A6081RF, PNV-A6081R, PNO-A6081R, PNB-A6001			
Analytics				
Object	Person, Shopping Cart	Vehicle (Car, Truck, Bus, Motorcycle, Bicycle), License plate	Person, Forklift	Excludes Person and Vehicle
BestShot	Person, Shopping Cart	Vehicle, License plate	Person, Forklift	WiseAI app feature
Event Rules				
Exclude Area	Yes – 8 areas	Yes – 8 areas	Yes – 8 areas	WiseAI app feature
Virtual Line	Line crossing by Object class – 8 areas	Line crossing by Object class – 8 areas	Line crossing by Object class – 8 areas	WiseAI app feature
Virtual Area	Loitering/Intrusion/Enter/Exit by Object class – 8 areas, Appear/Disappear	Loitering/Intrusion/Enter/Exit by Object class – 8 areas, Appear/Disappear	Loitering/Intrusion/Enter/Exit by Object class – 8 areas, Appear/Disappear	WiseAI app feature
Blocked Exit	With duration settings (min 5mins, max 60mins) – 3 areas	–	With duration settings (min 5mins, max 60mins) – 3 areas	With duration settings (min 5mins, max 60mins) – 3 areas
Slip & Fall	8 areas	–	8 areas	WiseAI app feature
Other (AI pack specific)	–	1. Stopped vehicle detection (max 3 hours timer per Object class) – 8 areas 2. Traffic jam detection (distance/speed/time rules) – 4 areas 3. Pedestrian detection (duration setting) – 3 areas 4. Wrong-way detection by Object class – 3 areas 5. Vehicle speed detection by Object class – 3 areas (Distance and speed settings) – **Max 40kph/25mph**	1. Proximity detection between People / between Forklifts /between People and Forklifts (Total of 3 rules, distance and duration settings) 2. Forklift speed detection (speed and duration settings – **Max 50kph/31mph**)	–
Statistics				
Counting	Person – 2 lines, Shoping Cart – 2 lines	Vehicle by Object class – 2 lines	Person – 2 lines, Forklift – 2 lines	WiseAI app feature
Heatmap	Person, Shopping Cart	Vehicle	Person, Forklift	WiseAI app feature
Queue	Person – 3 areas, Shoping Cart – 3 areas + queue event	Vehicle – 3 areas + queue event	Person – 3 areas, Forklift – 3 areas + queue event	WiseAI app feature
Other (AI pack specific)	Counting by gender	Multi-lane vehicle turning movement counting by Object class (straight, left/right, u-turns) – 20 areas	–	WiseAI app feature
Reporting	FTP and Email by schedule XLSX, TXT file for counting, PNG for Heatmap data	FTP and Email by schedule XLSX, TXT file for counting, PNG for Heatmap data	FTP and Email by schedule XLSX, TXT file for counting, PNG for Heatmap data	WiseAI app feature

	XNO-9082R 8MP IR Bullet Camera	XNV-9082R 8MP IR Vandal Dome Camera	XND-9082RF 8MP IR Dome Camera	XND-9082RV 8MP IR Dome Camera	XNB-9002 8MP Box Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	4K / 30fps				
Min. Illumination	Colour: 0.05Lux(F1.2, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)				Colour: 0.05Lux(F1.2, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE)
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)	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	–
Angular Field of View	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	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°~85° / 0°~355°	0°~360° / 0°~85° / 0°~355°	–
IR Viewable Length	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	–
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)
Digital Noise Reduction	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)	Support(built-in gyro sensor)
Analytics	**Analytics events** – Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Fog detection, Virtual line, Audio detection, Sound classification, Shock detection, Face/upper body detection				
Business Intelligence	People counting, Queue management, Heatmap				
Alarm I/O	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports
Audio I/O	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in/built-in mic) / Line out	Selectable(mic in/line in/built-in mic) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles, 3 virtual channel support)				
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)				
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) **Hanwha Vision** Open Platform				
Operating Temperature / Humidity	−50℃~+60℃(−58℉~+140℉) / 0~95% RH(non-condensing) * Start up should be done at above −30℃	−50℃~+60℃(−58℉~+140℉) / 0~95% RH(non-condensing) * Start up should be done at above −30℃	−25℃~+60℃(−13℉~+140℉) / 0~95% RH(non-condensing)	−25℃~+60℃(−13℉~+140℉) / 0~95% RH(non-condensing)	−10℃~+55℃(+14℉~+131℉) / 0~95% RH (non-condensing)
Certification	IP66/IP67, NEMA4X, IK10	IP66/IP67/IP6K9K, IK10+, NEMA4X	IP52, Plenum rated, IK10	IP52, IK10	–
Power Consumption	PoE: Max 12.95W, typical 10.5W 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 24VAC: Max 13.5W, typical 11.0W Power redundancy failover	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W Power redundancy failover	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W Power redundancy failover	PoE: Max 12.95W, typical 8.2W 12VDC: Max 11.5W, typical 7.5W 24VAC: Max 13.5W, typical 8.9W Power redundancy failover
Product Dimensions / Weight	ø 91x368.6mm(ø 3.85x14.51"), 2200g(4.85 lb)	ø 180x125mm(ø 7.09x4.92"), 1900g(4.19 lb)	ø 205x163mm(ø 8.07x6.42"), 1950g(4.29 lb)	ø 160x125mm(ø 6.30x4.92"), 1600g(3.53 lb)	81(W)x67(H)x165(D)mm(3.19x2.64x6.48"), 880g(1.94 lb)
Additional Features	UL CAP, Secure by Default				

Page 46

	XNO-8082R 6MP IR Bullet Camera	XNV-8082R 6MP IR Vandal Dome Camera	XND-8082RF 6MP IR Dome Camera	XND-8082RV 6MP IR Dome Camera	XNB-8002 6MP Box Camera
Imaging Device	1/2.8″ CMOS				
Resolution / Max. Frame Rate	6MP / 30fps				
Min. Illumination	Colour: 0.05Lux(F1.2, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE), 0Lux(IR LED on)				Colour: 0.05Lux(F1.2, 1/30sec, 30IRE) BW: 0.005Lux(F1.2, 1/30sec, 30IRE)
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)	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	2.8~8.4mm(3x) motorized varifocal	–
Angular Field of View	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	H: 114°(Wide)~40°(Tele) V: 62°(Wide)~22°(Tele) D: 133°(Wide)~46°(Tele)	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°~ 85° / 0°~355°	0°~360° / 0°~85° / 0°~355°	–
IR Viewable Length	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	WiseIR 40m(131.23ft)	–
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)	extremeWDR(120dB)
Digital Noise Reduction	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)	Support(built-in gyro sensor)
Analytics	**Analytics events** – Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Fog detection, Virtual line, Audio detection, Sound classification, Shock detection, Face/upper body detection				
Business Intelligence	People counting, Queue management, Heatmap				
Alarm I/O	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports	2 configurable I/O ports
Audio I/O	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in/built-in mic) / Line out	Selectable(mic in/line in/built-in mic) / Line out
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles, 3 virtual channel support)				
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 1TB(512GBx2)				
Application Programming Interface	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform				
Operating Temperature / Humidity	-50℃~+60℃(-58℉~+140℉) / 0~95% RH(non-condensing) * Start up should be done at above -30℃	-50℃~+60℃(-58℉~+140℉) / 0~95% RH(non-condensing) * Start up should be done at above -30℃	-25℃~+60℃(-13℉~+140℉) / 0~95% RH(non-condensing)	-25℃~+60℃(-13℉~+140℉) / 0~95% RH(non-condensing)	-10℃~+55℃(+14℉~+131℉) / 0~95% RH (non-condensing)
Certification	IP66/IP67, NEMA4X, IK10	IP66/IP67/IP6K9K, IK10+, NEMA4X	IP52, Plenum rated, IK10	IP52, IK10	–
Power Consumption	PoE: Max 12.95W, typical 10.5W 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 24VAC: Max 13.5W, typical 11.0W Power redundancy failover	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W Power redundancy failover	PoE: Max 12.95W, typical 10.7W 12VDC: Max 11.5W, typical 9.0W Power redundancy failover	PoE: Max 12.95W, typical 8.2W 12VDC: Max 11.5W, typical 7.5W 24VAC: Max 13.5W, typical 8.9W Power redundancy failover
Product Dimensions / Weight	ø 91x368.6mm(ø 3.85x14.51″), 2200g(4.85 lb)	ø 180x125mm(ø 7.09x4.92″), 1900g(4.19 lb)	ø 205x163mm(ø 8.07x6.42″), 1950g(4.29 lb)	ø 160x125mm(ø 6.30x4.92″), 1600g(3.53 lb)	81(W)x67(H)x165(D)mm(3.19x2.64x6.48″), 880g(1.94 lb)
Additional Features	UL CAP, Secure by Default				

Page 47

	XND-8081VZ 5MP Dome Camera	XND-8081FZ 5MP Flush Mount Dome Camera	XND-8081RV 5MP IR Dome Camera	XND-8081RF 5MP IR Flush Mount Dome Camera	XNV-8081Z 5MP Vandal Dome Camera
Imaging Device	1/1.8″ CMOS				
Resolution / Max. Frame Rate	5MP / 30fps				
Min. Illumination	Colour : 0.07Lux (F1.2) B/W : 0.007Lux (F1.2)	Colour : 0.07Lux (F1.2) B/W : 0.007Lux (F1.2)	Colour : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)	Colour : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)	Colour : 0.07 Lux (F1.2) B/W : 0.007 Lux (F1.2)
Video Out	Micro USB Type B	Micro USB Type B	CVBS 1.0 Vp-p, Micro USB Type B	CVBS 1.0 Vp-p, Micro USB Type B	Micro USB Type B
Focal Length (Zoom Ratio)	3.6 ~ 9.4mm (2.6x) motorized varifocal	3.6 ~ 9.4mm (2.6x) motorized varifocal	3.9 ~ 9.4mm (2.4x) motorized varifocal	3.9 ~ 9.4mm (2.4x) motorized varifocal	3.6 ~ 9.4mm (2.6x) motorized varifocal
Angular Field of View	H : 102.5° (Wide) ~ 38.7° (Tele) V : 74.2° (Wide) ~ 29° (Tele) D : 135.5° (Wide) ~ 48.6° (Tele)	H : 102.5° (Wide) ~ 38.7° (Tele) V : 74.2° (Wide) ~ 29° (Tele) D : 135.5° (Wide) ~ 48.6° (Tele)	H : 92.1° (Wide) ~ 38.7° (Tele) V : 67.2° (Wide) ~ 29° (Tele) D : 119.9° (Wide) ~ 48.6° (Tele)	H : 92.1° (Wide) ~ 38.7° (Tele) V : 67.2° (Wide) ~ 29° (Tele) D : 119.9° (Wide) ~ 48.6° (Tele)	H : 102.5° (Wide) ~ 38.7° (Tele) V : 74.2° (Wide) ~ 29° (Tele) D : 135.5° (Wide) ~ 48.6° (Tele)
Pan / Tilt / Rotate Range	± 175° / 0 ~ 85° / ± 175° (Remote)	± 175° / 0 ~ 85° / ± 175° (Remote)	0° ~ 360° / -45° ~ 85° / 0° ~ 355°	0° ~ 360° / -45° ~ 85° / 0° ~ 355°	± 175° / 0 ~ 85° / ± 175° (Remote)
IR Viewable Length	–	–	50m (164.04ft)	50m (164.04ft)	–
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support (Built-in Gyro sensor)				
Analytics	Intelligent analytics, Audio detection, Sound classification, Audio Playback, Shock detection				
Business Intelligence	–				
Alarm I/O	1 / 1				
Audio I/O	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 10 Profiles				
Edge Storage	micro SD/SDHC/SDXC				
Application Programming Interface	ONVIF Profile S/T, SUNAPI Hanwha Vision Open Platform				
Operating Temperature / Humidity	-25℃ ~ +60℃ (-13℉ ~ +140℉)	-25℃ ~ +60℃ (-13℉ ~ +140℉)	-25℃ ~ +60℃ (-13℉ ~ +140℉) / 0~90% RH	-25℃ ~ +60℃ (-13℉ ~ +140℉)	-50℃ ~ +60℃ (-58℉ ~ +140℉) * Start up above -35℃ (-31℉)
Certification	IP52, IK10	IP52, Plenum rate	IP52, IK10	IP52, Plenum rate	IP67, IP66, IP6K9K, IK10+, NEMA4X
Power Consumption	PoE : Max 11W 12VDC : Max 9W	PoE : Max 11W 12VDC : Max 9W	PoE : Max 12.95W 12VDC : Max 11.7W	PoE : Max 12.95W 12VDC : Max 11.7W	PoE : Max 12.3W 12VDC : Max 10W 24VAC : Max 12.3W
Product Dimensions / Weight	Ø160 x 125mm (Ø6.3″ x 4.92″) 1.45kg (3.20lb)	Ø205 x 155mm(Ø8.07″ x 6.1″) 1.85kg (4.08lb)	Ø160 x 125mm(Ø6.3″ x 4.92″) 1.45kg (3.20lb)	Ø205 x 155mm(Ø8.07″ x 6.1″) 1.8kg (3.97lb)	Ø180 x 125mm(Ø7.1″ x 4.9″) 1.75kg (3.86lb)
Additional Features	Modular structure, Motorized PTRZ, Anti dust	Modular structure, Motorized PTRZ, Anti dust	Modular structure, Anti dust	Modular structure, Anti dust	Modular structure, Motorized PTRZ

NETWORK   ANALOG   PERIPHERAL   INSTALLATION SOLUTION

	XNV-8081R 5MP IR Vandal Dome Camera	XND-6081V 2MP Dome Camera	XND-6081VZ 2MP Dome Camera
Imaging Device	1/1.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	5MP / 30fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Colour : 0.07Lux (F1.3) BW : 0Lux (IR LED)	Colour : 0.015Lux (F1.4) B/W : 0.0015Lux (F1.4)	Colour : 0.015Lux (F1.4) B/W : 0.0015Lux (F1.4)
Video Out	CVBS 1.0 Vp–p, Micro USB type B	CVBS 1.0Vp–p, Micro USB type B	Micro USB type B
Focal Length (Zoom Ratio)	3.9~9.4mm (2.4x) motorized varifocal	2.8~12mm (4.3x) motorized varifocal	2.8~12mm (4.3x) motorized varifocal
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 : 119.5°(Wide) ~ 27.9°(Tele) V : 62.8°(Wide) ~ 15.7°(Tele) D : 142.1°(Wide) ~ 32°(Tele)	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° ~ 360°/ –45° ~ 85°/ 0° ~ 355°	0° ~ 360°/ –45° ~ 85°/ 0° ~ 355°	± 175°/ 0 ~ 85° / ± 175° (Remote)
IR Viewable Length	50m (164.04ft)	–	–
Day & Night	Auto (ICR)		
Wide Dynamic Range	120dB	150dB	150dB
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	Support (Built–in Gyro sensor)	Support (Built–in Gyro sensor)	Support (Built–in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Audio Playback, Shock detection		
Business Intelligence	–		
Alarm I/O	1 / 1		
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built–in mic / Line out	Selectable (mic in/line in), Built–in mic / Line out
Video Compression	H.265 / H.264, MJPEG		
WiseStream	WiseStream II		
Streaming	Up to 10 Profiles		
Edge Storage	micro SD/SDHC/SDXC		
Application Programming Interface	ONVIF Profile S/T, SUNAPI Hanwha Vision Open Platform		
Operating Temperature / Humidity	–50℃ ~ +60℃ (–58°F ~ +140°F) * Start up above –35℃ (–31°F)	–25℃ ~ +60℃ (–13°F ~ +140°F)	–25℃ ~ +60℃ (–13°F ~ +140°F)
Certification	IP67, IP66, IP6K9K, IK10+, NEMA4X	IP52, IK10	IP52, IK10
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.7W 24VAC : Max 14.9W	PoE : Max 7W 12VDC : Max 5.4W	PoE : Max 10W 12VDC : Max 8.5W
Product Dimensions / Weight	Ø180 x 125mm(Ø7.1" x 4.9") 1.75kg (3.86lb)	Ø160 x 125mm (Ø6.3" x 4.92") 1.45kg (3.2lb)	Ø160 x 125mm (Ø6.3" x 4.92") 1.45kg (3.2lb)
Additional Features	Modular structure	Modular structure, Anti dust	Modular structure, Motorized PTRZ, Anti dust

	XND-6081RV 2MP IR Dome Camera	XND-6081RF 2MP Flush Mount IR Dome Camera	XNV-6081Z 2MP Vandal Dome Camera	XNV-6081R 2MP IR Vandal Dome Camera
Imaging Device	1/2.8" CMOS			
Resolution / Max. Frame Rate	2MP / 60fps			
Min. Illumination	Colour : 0.015 Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.015 Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.015 lux (F1.4) B/W : 0.0015 Lux (F1.4)	Colour : 0.015Lux (F1.4) BW : 0Lux (IR LED)
Video Out	CVBS 1.0Vp–p, Micro USB type B	CVBS 1.0Vp–p, Micro USB type B	Micro USB type B	CVBS 1.0Vp–p, Micro USB type B
Focal Length (Zoom Ratio)	2.8~12mm (4.3x) motorized varifocal			
Angular Field of View	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)			
Pan / Tilt / Rotate Range	0° ~ 360° / –45° ~ 85° / 0° ~ 355°	0° ~ 360° / –45° ~ 85° / 0° ~ 355	± 175° / 0° ~ 85° / ± 175° (Remote)	0° ~ 360° / –45° ~ 85° / 0° ~ 355
IR Viewable Length	50m (164.04ft)	50m (164.04ft)	–	50m (164.04ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	150dB			
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support (Built–in Gyro sensor)			
Analytics	Intelligent analytics, Audio detection, Sound classification, Audio Playback, Shock detection			
Business Intelligence	–			
Alarm I/O	1 / 1			
Audio I/O	Selectable (mic in/line in), Built–in mic / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG			
WiseStream	WiseStream II			
Streaming	Up to 10 Profiles			
Edge Storage	micro SD/SDHC/SDXC			
Application Programming Interface	ONVIF Profile S/T, SUNAPI Hanwha Vision Open Platform			
Operating Temperature / Humidity	–25℃ ~ +60℃ (–13°F ~ +140°F)	–25℃ ~ +60℃ (–13°F ~ +140°F)	–50℃ ~ +60℃ (–58°F ~ +140°F) * Start up above –35℃ (–31°F)	–50℃ ~ +60℃ (–58°F ~ +140°F) * Start up above –35℃ (–31°F)
Certification	IP52, IK10	IP52, Plenum rate	IP67, IP66, IP6K9K, IK10+, NEMA4X	IP67, IP66, IP6K9K, IK10+, NEMA4X
Power Consumption	PoE : Max 12.95W 12VDC : Max 10.8W	PoE : Max 12.95W 12VDC : Max 10.8W	PoE : Max 11W 12VDC : Max 9.5W 24VAC : Max 11W	PoE : Max 12.95W 12VDC : Max 10.8W 24VAC : Max 13.3W
Product Dimensions / Weight	Ø160 x 125mm (Ø6.3" x 4.92") 1.45kg (3.2lb)	Ø205 x 155mm(Ø8.07" x 6.1") 1.8kg (3.97lb)	Ø180 x 125mm (Ø7.1" x 4.9") 1.75kg (3.86lb)	Ø180 x 125mm (Ø7.1" x 4.9") 1.75kg (3.86lb)
Additional Features	Modular design, Anti dust	Modular design, Anti dust	Modular structure, Motorized PTRZ	Modular structure

	XNV-6081 2MP Vandal Dome Camera	XNB-8000 5MP Box Camera	XNO-8080R 5MP IR Bullet Camera	XNO-8020R/8030R/8040R 5MP IR Bullet Camera
Imaging Device	1/2.8" CMOS	1/1.8" CMOS	1/1.8" CMOS	1/1.8" CMOS
Resolution / Max. Frame Rate	2MP / 60fps	5MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Colour : 0.015 Lux (F1.4) B/W : 0.0015 Lux (F1.4)	Colour : 0.07Lux (F1.2) B/W : 0.007Lux (F1.2)	Colour : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)	Colour : 0.16Lux ((F1.6) B/W : 0Lux (IR LED on)
Video Out	CVBS 1.0 Vp-p, Micro USB type B	CVBS 1.0 Vp-p, Micro USB type B	CVBS 1.0 Vp-p, Micro USB Type B	CVBS 1.0 Vp-p, Micro USB Type B
Focal Length (Zoom Ratio)	2.8~12mm (4.3x) motorized varifocal	–	3.7~9.4mm (2.5x) motorized varifocal	3.7mm fixed (XNO-8020R) 4.6mm fixed (XNO-8030R) 7.0mm fixed (XNO-8040R)
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 : 100.2°(Wide) ~ 38.7°(Tele) V : 67.2°(Wide) ~ 29°(Tele) D : 119.9°(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)
Pan / Tilt / Rotate Range	0° ~ 360° / -45° ~ 85° / 0° ~ 355°	–	–	–
IR Viewable Length	–	–	50m (164.04ft)	30m (98.43ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	150dB	120dB	120dB	120dB
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)	Support	Support
Analytics	Intelligent analytics Audio detection Sound classification Audio Playback Shock detection	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification
Business Intelligence	–	–	–	People counting, Queue management, Heatmap
Alarm I/O	1 / 1			
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
WiseStream	WiseStream II			
Streaming	Up to 10 Profiles			
Edge Storage	micro SD/SDHC/SDXC			
Application Programming Interface	ONVIF Profile S/T, SUNAPI Hanwha Vision Open Platform			
Operating Temperature / Humidity	-50℃ ~ +60℃ (-58°F ~ +140°F) * Start up above -35℃ (-31°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-40℃ ~ +55℃ (-40°F ~ +131°F)	-30℃ ~ +55℃ (-22°F ~ +131°F) * Start up above -20℃ (-4°F)
Certification	IP67, IP66, IP6K9K, IK10+, NEMA4X	–	IP67, IP66, NEMA4X, IK10	IP67, IP66, NEMA4X, IK10
Power Consumption	PoE : Max 7W 12VDC : Max 5.4W 24VAC : Max 7.1W	PoE : Max 8.5W 12VDC : Max 7.5W 24VAC : Max 8.5W	PoE : Max 12.95W 12VDC : Max 12.5W 24VAC : Max 14.5W	PoE : Max 10.3W 12VDC : Max 9.3W
Product Dimensions / Weight	Ø180 x 125mm (Ø7.1" x 4.9") 1.45kg (3.20lb)	W 73.1 x H 66.6 x D 147.8mm (2.88" x 2.62" x 5.82") 420g (0.93lb)	Ø91 x 368.6mm (Ø6.3" x 4.67") 2.18kg (4.81lb)	Ø70 x 296mm (Ø2.76" x 11.65") 1.22kg (2.69lb)
Additional Features	Modular structure	Handover, Hallway View	Handover, Hallway View	Handover, Hallway View

	XND-8080R/8080RV 5MP IR Dome Camera	XND-8020R/8030R/8040R 5MP IR Dome Camera	XND-8020F 5MP Flush Mount Dome Camera	XNV-8080R 5MP IR Vandal Dome Camera
Imaging Device	1/1.8" CMOS			
Resolution / Max. Frame Rate	H.265, H.264, MJPEG			
Min. Illumination	Colour : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)	Colour : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.16Lux (F1.6) B/W : 0.16Lux (F1.6)	Colour : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)
Video Out	CVBS 1.0 Vp-p, Micro USB type B	CVBS 1.0 Vp-p, Micro USB type B	Micro USB type B	CVBS 1.0 Vp-p, Micro USB type B
Focal Length (Zoom Ratio)	3.9 ~ 9.4mm (2.4x) motorized varifocal	3.7mm fixed (XND-8020R) 4.6mm fixed (XND-8030R) 7.0mm fixed (XND-8040R)	3.7mm fixed	3.9 ~ 9.4mm (2.4x) motorized varifocal
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 : 97.5° / V : 71.9° / D : 126.2° (XND-8020R) H : 77.9° / V : 57.9° / D : 98.7° (XND-8030R) H : 50.7° / V : 37.8° / D : 63.8° (XND-8040R)	H : 97.5° / V : 71.9° / D : 126.2°	H : 92.1° (Wide) ~ 38.7° (Tele) V : 67.2° (Wide) ~ 29° (Tele) D : 119.9° (Wide) ~ 48.6° (Tele)
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 355° / 0° ~ 47° / 0° ~ 353°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	30m (98.43ft)	30m (98.43ft)	–	50m (164.04ft)
Day & Night	Auto (ICR)	Auto (ICR)	Auto (Electrical)	Auto (ICR)
Wide Dynamic Range	120dB	120dB	–	120dB
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support	Support (Built-in Gyro sensor)	Support	Support
Analytics	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification
Business Intelligence	–	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	–
Alarm I/O	1 / 1	1 / 1	–	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built-in mic / Line out	Built-in mic / –	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG			
WiseStream	WiseStream II			
Streaming	Up to 10 Profiles			
Edge Storage	micro SD/SDHC/SDXC			
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-40℃ ~ +55℃ (-40°F ~ +131°F)
Certification	IK08	IK08	–	IP67, IP66, NEMA4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W	PoE : Max 9W 12VDC : Max 8W	PoE : Max 4.7W	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W
Operating Temperature / Humidity	Ø140.8 x 113mm (Ø5.54" x 4.45") 628g (1.38lb) (XND-8080R) 732g (1.61lb) (XND-8080RV)	Ø110 x 90mm (Ø4.33" x 3.54") 380g (0.84lb)	Ø98.9 x 129.1mm (Ø3.89" x 5.08") 275g (0.61lb)	Ø160 x 118.5mm (Ø6.3" x 4.67") 1.01kg (2.23lb)
Additional Features	Handover, Hallway View			

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	XNV-8020R/8030R/8040R 5MP IR Vandal Dome Camera	XNF-9010RV/9010RVM 12MP IR Fisheye Camera	XNF-8010R/8010RV/8010RVM 6MP IR Fisheye Camera	XNB-6005 2MP Box Camera (extraLUX)	XNB-6000 2MP Box Camera
Imaging Device	1/1.8" CMOS	1/2.3" 12MP CMOS	1/1.8" CMOS	1/2" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	5MP / 30fps	3008 x 3008 / 30fps	2048 x 2048 / 30fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Colour : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.39 Lux (F2.2) BW : 0Lux (IR LED on)	Colour : 0.1Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.006Lux (F1.2) B/W : 0.0006Lux (F1.2)	Colour : 0.01Lux (F1.2) B/W : 0.001Lux (F1.2)
Video Out	CVBS 1.0 Vp-p, Micro USB type B			CVBS : 1.0 Vp-p, Micro USB Type B	
Focal Length (Zoom Ratio)	3.7mm fixed (XNV-8020R) 4.6mm fixed (XNV-8030R) 7.0mm fixed (XNV-8040R)	1.08mm fixed focal	1.6mm fixed	–	–
Angular Field of View	H : 97.5°/ V : 71.9°/ D : 126.2° (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 : 187°/ V : 187°/ D : 187°	H : 192° / V : 192° / D : 192°	–	–
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	–	–	–	–
IR Viewable Length	30m (98.43ft)	10m (32.8ft), Wise IR	15m (49.21ft)	–	–
Day & Night	Auto (ICR)		Auto (ICR)	Auto (ICR)	Auto (ICR)
Wide Dynamic Range	120dB	extremeWDR (120dB)	120dB	150dB	150dB
Digital Noise Reduction	SSNR V		SSNR V	SSNR V	SSNR V
Digital Image Stabilization	Support (Built-in Gyro sensor)	–	–	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification		Intelligent analytics, Audio detection, Sound classification		
Business Intelligence	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	–	–
Alarm I/O	1 / 1	2 configured I / O	1 / 1	1 / 1	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), 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	Selectable (mic in/line in), Built-in mic / Line out
Video Compression	H.265 / H.264, MJPEG			H.265 / H.264, MJPEG	
WiseStream	WiseStream II			WiseStream II	
Streaming	Up to 10 Profiles			Up to 10 Profiles	
Edge Storage	micro SD/SDHC/SDXC			micro SD/SDHC/SDXC	
Application Programming Interface	ONVIF profile S/G, SUNAPI Hanwha Vision Open Platform	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, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-30℃ ~ +55℃ (-22°F ~ +131°F)	-40℃ ~ +60℃ (-40°F ~ +140°F) / 0~95% RH	-10℃ ~ +55℃ (+14°F ~ +131°F) (XNF-8010R) -40℃ ~ +55℃ (-40°F ~ +131°F) (XNF-8010RV/8010RVM)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)
Certification	IP66, IP67, IK10	IP66, IK10, NEMA4X, EN50155 class T3 (XNF-9010RVM only)	IP66, IK10 (XNF-8010RV/8010RVM)	–	–
Power Consumption	PoE : Max 9W 12VDC: Max 8W	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. 8.5W 12VDC : Max 8W 24VAC : Max 9W	PoE : Max 7.5W 12VDC : Max 6.5W 24VAC : Max 8W
Product Dimensions / Weight	Ø120 x 97.5mm (Ø4.72" x 3.84") 615g (1.36lb)	Ø160 x 72mm (Ø6.38" x 2.83") 1.1kg (2.43lb)	Ø146 x 54.8mm (Ø5.75" x 2.16") 730g (1.61lb) (XNF-8010R) Ø146 x 65.8mm (Ø5.75" x 2.59") 785g (1.73lb) (XNF-8010RV) 790g (1.74lb) (XNF-8010RVM)	W 73.1 x H 66.6 x D 147.8mm (2.88" x 2.62" x 5.82") 420g (0.93lb)	W 73.1 x H 66.6 x D 147.8mm (2.88" x 2.62" x 5.82") 420g (0.93lb)
Additional Features	Handover, Hallway View	Various mode support (Original, Double panorama, Single panorama, Quad view) M12 Connector (XNF-9010RVM)	M12 Connector (XNF-8010RVM), Built-in MIC, On board dewarpping	Handover, Hallway View	Handover, Hallway View

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	XNB-6001 2MP Remote Head Camera	SLA-T4680/T4680V 2MP lens for XNB-6001	SLA-T2480/T2480V 2MP lens for XNB-6001	SLA-T1080F 2MP lens for XNB-6001
Imaging Device	–	1/2.8" CMOS		1/2.8" CMOS
Resolution / Max. Frame Rate	2MP / 60fps	–	–	–
Min. Illumination	–	Colour : 0.06Lux (F2.5) B/W : 0.06Lux (F2.5)	Colour : 0.45Lux (F2.0) B/W : 0.45Lux (F2.0)	Colour : 0.03Lux (F1.6)
Video Out	CVBS 1.0Vp-p, Micro USB type B	–	–	–
Focal Length (Zoom Ratio)	–	4.6mm Pinhole	2.4mm fixed	1.6mm fisheye
Angular Field of View	–	H : 73° / V : 39° / D : 85°	H : 138° / V : 73° / D : 168°	H : 187° / V : 113.9°
Pan / Tilt / Rotate Range	–			
IR Viewable Length	–			
Day & Night	–	Auto (Electrical)	Auto (Electrical)	Auto (Electrical)
Wide Dynamic Range	120dB	–	–	–
Digital Noise Reduction	SSNR V	–	–	–
Digital Image Stabilization	Support	–	–	–
Analytics	Intelligent analytics Audio detection	–	–	–
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, MJPEG	–	–	–
WiseStream	WiseStream II	–	–	–
Streaming	Up to 10 Profiles	–	–	–
Edge Storage	SD/SDHC/SDXC	–	–	–
Application Programming Interface	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	–	–	–
Operating Temperature / Humidity	-10℃ ~ +55℃ (+14°F ~ +131°F)			
Certification	–			
Power Consumption	PoE : Max 6W 12VDC : Max 6.5W	–	–	–
Product Dimensions / Weight	W 131.1 x H 28 x D 86mm (5.16" x 1.1" x 3.39") 245g (0.54lb)	Ø24 x 42mm (Ø0.94" 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)	Ø24 x 49.8mm (Ø0.94" 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)	Ø35 x 68.9mm (Ø1.38" x 2.71") (Lens) 8m (314.96") (Cable) 321g (0.71lb)
Additional Features	Handover, Hallway View	–	–	–

	XNO-6120R 2MP IR Bullet Camera	XNO-6085R 2MP IR Bullet Camera (extraLUX)	XNO-6080R 2MP IR Bullet Camera	XNO-L6080R 2MP IR Bullet Camera	XNO-6010R/6020R 2MP IR Bullet Camera
Imaging Device	1/2.8" CMOS	1/2" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	2MP / 60fps				
Min. Illumination	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.004Lux (F0.94) B/W : 0Lux (IR LED on)	Colour : 0.015Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.03ux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.055lux (F2.0) (XNO-6010R) Colour : 0.015lux (F1.4) (XNO-6020R) B/W: 0 Lux (IR LED On)
Video Out	CVBS 1.0Vp~p, Micro USB type B				
Focal Length (Zoom Ratio)	5.2~62.4mm (Optical 12x)	4.1~16.4mm (Optical 4x) motorized varifocal	2.8~12mm (4.3x) motorized varifocal	3.2~10mm (3.1x) motorized varifocal	2.4mm fixed (XNO-6010R) 4mm fixed (XNO-6020R)
Angular Field of View	H : 54.58°(Wide) ~ 5.3°(Tele) V : 32.19°(Wide) ~ 3°(Tele) D : 61.4°(Wide) ~ 6.06°(Tele)	H : 100° (Wide) ~ 26.2° (Tele) V : 54° (Wide) ~ 14.8° (Tele) D : 116° (Wide) ~ 30° (Tele)	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide)) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)	H : 139?/ V : 73°/ D : 167° (XNO-6010R) H : 88.6°/ V : 47.5°/ D : 104.8° (XNO-6020R)
Pan / Tilt / Rotate Range	–				
IR Viewable Length	70m (229.66ft)	70m (229.66ft)	50m (164.04ft)	30m (98.42ft)	20m (65.62ft) (XNO-6010R) 30m (98.43ft) (XNO-6020R)
Day & Night	Auto (ICR)				
Wide Dynamic Range	150dB				
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support	Support	Support	Support	Support
Analytics	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics	Intelligent analytics Audio detection Sound classification
Business Intelligence	–	–	–	–	People counting, Queue management, Heatmap
Alarm I/O	1 / 1	1 / 1	1 / 1	–	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	–	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 10 Profiles				
Edge Storage	micro SD/SDHC/SDXC				
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G/T, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature / Humidity	−40℃ ~ +55℃ (−40℉ ~ +131℉) * Start up above −35℃ (−31℉)	−40℃ ~ +55℃ (−40℉ ~ +131℉) * Start up above −35℃ (−31℉)	−40℃ ~ +55℃ (−40℉ ~ +131℉)	−40℃ ~ +55℃ (−40℉ ~ +131℉)	−30℃~ +55℃ (−22℉ ~ +131℉) * Start up above −20℃
Certification	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10	IP66, IK10	IP67, IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 12.95W 12VDC : Max 12.5W 24VAC : Max 14.5W	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 12.95W	PoE : Max 12.95W 12VDC : Max 12W 24VAC : Max 15W	PoE : Max. 11W	PoE : Max 9.7W 12VDC : Max 8.8W
Product Dimensions / Weight	Ø91 x 368.6mm (Ø3.58" x 14.51") 2.18kg (4.81lb)	Ø91 x 388.6mm (Ø3.58" x 15.3") 2.35kg (5.18lb)	Ø91 x 368.6.mm (Ø3.58" x 14.51") 2.18kg (4.81lb)	Ø91 x 322.9mm (Ø3.58" x 12.71") 1.29kg (4.25lb)	Ø70 x 301.5mm (Ø2.76" x 11.87") (XNO-6010R) Ø70 x 296mm (Ø2.76" x 11.65") (XNO-6020R) 1.22kg (2.69lb)
Additional Features	Handover, Hallway View				

	XND-6085 2MP Dome Camera (extraLUX)	XND-6080/6080V 2MP Dome Camera	XND-6080R 2MP IR Dome Camera	XND-L6080R 2MP IR Dome Camera
Imaging Device	1/2" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	2MP / 60fps			
Min. Illumination	Colour : 0.004Lux (F0.94) B/W : 0.0004Lux (F0.94)	Colour : 0.015Lux (F1.4) B/W : 0.0015Lux (F1.4)	Colour : 0.015Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)
Video Out	CVBS 1.0Vp~p, Micro USB type B			
Focal Length (Zoom Ratio)	4.1~16.4mm (Optical 4x)	2.8~12mm (4.3x) motorized varifocal	2.8~12mm (4.3x) motorized varifocal	3.2~10mm (3.1x) motorized varifocal
Angular Field of View	H : 100° (Wide) ~ 26.2° (Tele) V : 54° (Wide) ~ 14.8° (Tele) D : 116° (Wide) ~ 30° (Tele)	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)
Pan / Tilt / Rotate Range	± 175° / ± 73° / ± 175°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	–	–	30m (98.43ft)	30m (98.42ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	–	150dB	150dB	120dB
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support (Built-in Gyro sensor)	Support	Support	Support
Analytics	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics
Business Intelligence	–			
Alarm I/O	1 / 1	1 / 1	1 / 1	–
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in), Built-in mic / Line out	–
Video Compression	H.265 / H.264, MJPEG			
WiseStream	WiseStream II			
Streaming	Up to 10 Profiles			
Edge Storage	SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC
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, SUNAPI, **Hanwha Vision** Open Platform
Operating Temperature / Humidity	−30℃ ~ +55℃ (−22℉ ~ +131℉) * Start up above −10℃ (+14℉)	−10℃ ~ +55℃ (+14℉ ~ +131℉)	−10℃ ~ +55℃ (+14℉ ~ +131℉)	−10℃ ~ +55℃ (+14℉ ~ +131℉)
Certification	IK08			
Power Consumption	PoE : Max 10.2W 12VDC : Max 8.6W	PoE : Max 6.5W 12VDC : Max 6W	PoE : Max 10W 12VDC : Max 9W	PoE : Max 8W
Product Dimensions / Weight	Ø160 x 140mm (Ø6.3" x 5.51") 1.1 kg (2.43lb) (XND-6085) 1.25 kg (2.76lb) (XND-6085V)	Ø140.8 x 113mm (Ø5.54" x 4.45") 610g (1.34lb) (XND-6080) 714g (1.57lb) (XND-6080V)	Ø140.8 x 113mm (Ø5.54" x 4.45") 624g (1.38lb) (XND-6080R) 724g (1.60lb) (XND-6080RV)	Ø140.8 x 113mm (Ø5.54" x 4.45") 580g (1.28lb) (XND-L6080R) 690g (1.52lb) (XND-L6080RV)
Additional Features	Handover, Hallway View	Handover, Hallway View	Handover, Hallway View	Defog, Hallway View

	XND-6020R 2MP IR Dome Camera	XND-6010 2MP Dome Camera	XNV-6120/6120R 2MP Vandal / IR Vandal Dome Camera
Imaging Device	1/2.8″ CMOS		
Resolution / Max. Frame Rate	2MP / 60fps		
Min. Illumination	Colour : 0.015 Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.055Lux (F2.0) B/W : 0.055Lux (F2.0)	Colour : 0.03Lux (F1.6), B/W : 0.003Lux (F1.6) (XNV-6120) Colour : 0.03Lux (F1.6), B/W : 0Lux (IR LED on) (XNV-6120R)
Video Out	CVBS 1.0Vp-p, Micro USB type B	CVBS 1.0Vp-p, Micro USB type B	CVBS 1.0Vp-p, Micro USB type B
Focal Length (Zoom Ratio)	4mm fixed	2.4mm fixed	5.2 ~ 62.4mm (Optical 12x)
Angular Field of View	H : 88.6° / V : 47.5° / D : 104.8°	H : 139° / V : 73° / D : 167°	H : 54.58″ (Wide) ~ 5.3″ (Tele) V : 32.19″ (Wide) ~ 3″ (Tele) D : 61.4″ (Wide ~ 6.06″ (Tele)
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 75° / 0° ~ 355°	0° ~ 354° / 0° ~ 75° / 0° ~ 355°
IR Viewable Length	30m (98.43ft)	–	70m (229.66ft) (XNV-6120R)
Day & Night	Auto (ICR)	Auto (ICR)	Auto (ICR)
Wide Dynamic Range	150dB	150dB	150dB
Digital Noise Reduction	SSNR V		
Digital Image Stabilization	Support	Support	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification		
Business Intelligence	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	–
Alarm I/O	1 / 1	1 / 1	1 / 1
Audio I/O	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265 / H.264, MJPEG		
WiseStream	WiseStream II		
Streaming	Up to 10 Profiles		
Edge Storage	SD/SDHC/SDXC	micro SD/SDHC/SDXC	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
Operating Temperature / Humidity	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-40℃ ~ +55℃ (-40°F ~ +131°F) * Start up above -35℃ (-31°F)
Certification	IK08	IK08	IP67, IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 9W 12VDC : Max 8W	PoE : Max 6.5W 12VDC : Max 6W	PoE : Max. 7.8W, 12V DC : Max 7W, 24V AC : Max. 8.2W (XNV-6120) PoE : Max. 12.95W, 12V DC : Max. 11.5W, 24V AC : Max. 14W (XNV-6120R)
Product Dimensions / Weight	Ø110 x 90mm (Ø4.33″ x 3.54″) 380g (0.84lb)	Ø140.8 x 113mm (Ø5.54″ x 4.45″) 610g (1.34lb)	Ø160 x 128.5mm (Ø6.3″ x 5.06″) 985g (2.17lb) (XNV-6120) 995g (2.19lb) (XNV-6120R)
Additional Features	Handover, Hallway View		

	XNV-6085 2MP Vandal Dome Camera (extraLUX)	XNV-6080 2MP Vandal Dome Camera	XNV-6080R 2MP IR Vandal Dome Camera	XNV-L6080 2MP Vandal Dome Camera
Imaging Device	1/2″ CMOS	1/2.8″ CMOS	1/2.8″ CMOS	1/2.8″ CMOS
Resolution / Max. Frame Rate	2MP / 60fps			
Min. Illumination	Colour : 0.004Lux (F0.94) B/W : 0.0004Lux (F0.94)	Colour : 0.015Lux (F1.4) B/W : 0.015Lux (F1.4)	Colour : 0.015Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.03Lux (F1.6) B/W : 0.01Lux (F1.6)
Video Out	CVBS 1.0Vp-p, Micro USB type B			
Focal Length (Zoom Ratio)	4.1 ~ 16.4mm (Optical 4x)	2.8 ~ 12mm (4.3x) motorized varifocal	2.8 ~ 12mm (4.3x) motorized varifocal	3.2 ~ 10mm (3.1x) motorized varifocal
Angular Field of View	H : 100° (Wide) ~ 26.2° (Tele) V : 54° (Wide) ~ 14.8° (Tele) D : 116° (Wide) ~ 30° (Tele)	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 119.5° (Wide) ~ 27.9° (Tele) V : 62.8° (Wide) ~ 15.7° (Tele) D : 142.1° (Wide) ~ 32° (Tele)	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)
Pan / Tilt / Rotate Range	± 175° / ± 73° / ± 175°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	–	–	50m (164.04ft)	–
Day & Night	Auto (ICR)			
Wide Dynamic Range	150dB	150dB	150dB	120dB
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support (Built-in Gyro sensor)	Support	Support	Support
Analytics	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection, Sound classification	Intelligent analytics Audio detection, Sound classification	Intelligent analytics
Business Intelligence	–			
Alarm I/O	1 / 1	1 / 1	1 / 1	–
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	–
Video Compression	H.265 / H.264, MJPEG			
WiseStream	WiseStream II			
Streaming	Up to 10 Profiles			
Edge Storage	micro SD/SDHC/SDXC			
Application Programming Interface	ONVIF profile S/G, SUNAPI, 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℃ ~ +55℃ (-40°F ~ +131°F) * Start up above -35℃ (-31°F)	-40℃ ~ +55℃ (-40°F ~ +131°F)	-40℃ ~ +55℃ (-40°F ~ +131°F)	-40℃ ~ +55℃ (-40°F ~ +131°F)
Certification	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA4X, IK10	IP67, IP66, NEMA4X, IK10	IP66, IK10
Power Consumption	PoE : Max 12.1W 12VDC : Max 11.1W 24VAC : Max 13.5W	PoE : Max 7.8W 12VDC : Max 7W 24VAC : Max 8.2W	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W	PoE : Max 8W
Product Dimensions / Weight	Ø160 x 140mm (Ø6.3″ x 5.51″) 1.4kg (3.09lb)	Ø160 x 118.5mm (Ø6.3″ x 4.67″) 985g (2.17lb)	Ø160 x 118.5mm (Ø6.3″ x 4.67″) 995g (2.19lb)	Ø160 x 118.5mm (Ø6.3″ x 4.67″) 940g (2.1lb)
Additional Features	Handover, Hallway View			

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	XNV-L6080R 2MP IR Vandal Dome Camera	XNV-6022R/6022RM 2MP Mobile IR Flat Camera	XNV-6020R 2MP IR Vandal Dome Camera	XNV-6013M 2MP Mobile Camera	XNV-6012M/6012 2MP Mobile Flat Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 60fps				
Min. Illumination	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.04Lux (F2.0) B/W : 0Lux (IR LED on)	Colour : 0.015Lux (F1.4) B/W : 0Lux (IR LED on)	Colour : 0.04Lux (F2.0) B/W : 0.04Lux (F2.0)	Colour : 0.04Lux (F2.0) B/W : 0.04Lux (F2.0)
Video Out	CVBS 1.0Vp–p, Micro USB type B	Micro USB Type B	CVBS 1.0Vp–p, Micro USB type B	Micro USB Type B	Micro USB type B
Focal Length (Zoom Ratio)	3.2 ~ 10mm (3.1x) motorized varifocal	3.6mm fixed	4mm fixed	2.8mm fixed	2.4mm fixed
Angular Field of View	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)	H : 94.8° / V : 49.3° / D : 114.3°	H : 88.6° / V : 47.5° / D : 104.8°	H : 107.4° / V : 62.2° / D : 122°	H : 135.4° / V : 71.2° / D : 161.6°
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	±5° / 0° ~ 67° / ±90°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	±5° / ±10° / ±90°	±5° / 0 ~ 67° / ±90°
IR Viewable Length	30m (98.43ft)	15m (49.21ft)	30m (98.43ft)	–	–
Day & Night	Auto (ICR)	Auto (ICR)	Auto (ICR)	Auto (Electrical)	Auto (Electrical)
Wide Dynamic Range	120dB	150dB	150dB	150dB	150dB
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support	Support (Built-in Gyro sensor)	Support	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics	Intelligent analytics Audio detection Sound classification (w/ external MIC)	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification	Intelligent analytics Audio detection Sound classification (w/ external MIC)
Business Intelligence	–	–	People counting, Queue management, Heatmap	–	–
Alarm I/O	–	–	1 / 1	–	–
Audio I/O	–	Selectable (mic in/line in), Built-in mic / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in), Built-in mic / Line out
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 5 Profiles	Up to 10 Profiles	Up to 10 Profiles	Up to 10 Profiles	Up to 10 Profiles
Edge Storage	micro SD/SDHC/SDXC				
Application Programming Interface	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform				
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)	-40°C ~ +60°C (-40°F ~ +140°F) *Start up above -20°C (-22°F)	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)
Certification	IP66, IK10	IP66, IK10, NEMA4X	IP67, IP66, IK10	IP67, IP6K9K, IK10, NEMA4X	IP66, IK10, NEMA4X
Power Consumption	PoE : Max 11W	PoE : Max 6.7W	PoE : Max 9W 12V DC : Max 8W	PoE : Max 7.2W	PoE : Max 6.5W
Product Dimensions / Weight	Ø160 x 118.5mm (Ø6.3" x 4.67") 940g (2.07lb)	W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)	Ø120 x 97.5mm (Ø4.72" 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)	W 98.9 x H 52 x D 100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)
Additional Features	Handover, Hallway View	M12 Connector (XNV-6022RM) Handover, Hallway View	Handover, Hallway View	M12 Connector Handover, Hallway View	M12 Connector (XNV-6012M) Handover, Hallway View

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

	XNV-6011 2MP Vandal Dome Camera	XNV-6010 2MP Vandal Dome Camera	PTZ PLUS XNP-9300RW 8MP 30x Wiper + IR PTZ Camera	PTZ PLUS XNP-8300RW 6MP 30x Wiper + IR PTZ Camera	PTZ PLUS XNP-6400RW 2MP 40x Wiper + IR PTZ Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 60fps	4K / 30fps	6MP / 30fps	2MP / 60fps
Min. Illumination	Colour : 0.055Lux (F2.0) B/W : 0.055Lux (F2.0)	Colour : 0.055Lux (F2.0) B/W : 0.0055Lux (F2.0)	Colour : 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour : 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour : 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)
Video Out	CVBS 1.0Vp–p, Micro USB type B	CVBS 1.0Vpp, Micro USB type B	–	–	–
Focal Length (Zoom Ratio)	2.8mm fixed	2.4mm fixed	5~150mm(30x) zoom (digital 32x, total 960x zoom)	5~150mm(30x) zoom (digital 32x, total 960x zoom)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)
Angular Field of View	H : 112° / V : 62° / D : 130°	H : 139° / V : 73° / D : 167°	H: 57.42°(Wide)~2.19°(Tele) V: 33.54°(Wide)~1.25°(Tele)	H: 57.42°(Wide)~2.19°(Tele) V: 33.54°(Wide)~1.25°(Tele)	H: 65.66°(Wide)~1.88°(Tele) V: 39.40°(Wide)~1.09°(Tele)
Pan / Tilt / Rotate	0° ~ 353° / 0° ~ 59° / 0° ~ 353°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	360° Endless / 110°(-20°~90°) / –	360° Endless / 110°(-20°~90°) / –	360° Endless / 110°(-20°~90°) / –
IR Viewable Length	–	–	200m(656.17ft), Wise IR	200m(656.17ft), Wise IR	200m(656.17ft), Wise IR
Day & Night	Auto (Electrical)	Auto (ICR)	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule
Wide Dynamic Range	150dB	150dB	Extreme WDR(120dB)	Extreme WDR(120dB)	Extreme WDR(150dB)
Digital Noise Reduction	SSNR V				
Digital Image Stabilization	Support	Support	Support (built-in gyro sensor)	Support (built-in gyro sensor)	Support (built-in gyro sensor)
Analytics	Intelligent analytics	Intelligent analytics Audio detection Sound classification	Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Shock detection * Audio detection, Sound classification(with NW I/O Box)		
Business Intelligence	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	–	–	–
Alarm I/O	–	1 / 1	Compatible with NW I/O Box (Optional: SPM-4210)		
Audio I/O	–	Selectable (mic in/line in) / Line out	Compatible with NW I/O Box (Optional: SPM-4210)		
Video Compression	H.265, H.264, MJPEG				
WiseStream	WiseStream II	WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II
Streaming	Up to 10 Profiles				
Edge Storage	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC 2slots 1TB(512GBx2)		
Application Programming Interface	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G, SUNAPI, Hanwha Vision Open Platform	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform		
Operating Temperature	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)	-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, NEMA4X	IP67, IP66, IK10	IP66, IK10, NEMA4X, NEMA-TS 2(2.2.7,2.2.8, 2.2.9)		
Power Consumption	PoE : Max 6.5W	PoE : Max 6W / 12V DC : Max 5.5W	Typical 20W, Max 42W		
Dimensions (WxHxD) / Weight	Ø112.8 x 63.7mm (Ø4.44" x 2.51") 420g (0.93lb)	Ø120 x 97.5mm (Ø4.72" x 3.84") 625g (1.38lb)	φ184.9x318.8mm(7.28x12.55") / 5400g(11.90lb)	φ184.9x318.8mm(7.28x12.55") / 5400g(11.90lb)	φ184.9x318.8mm(7.28x12.55") / 5400g(11.90lb)
Additional Features	Handover, Hallway View	Handover, Hallway View	Upgraded preset accuracy, built-in wiper, object auto tracking, Target lock tracking Included SFP slot in HPoE injector		

NETWORK

	PTZ PLUS XNP-9250R 8MP 25x IR PTZ Camera	PTZ PLUS XNP-8250R 6MP 25x IR PTZ Camera	PTZ PLUS XNP-6400R 2MP 40x IR PTZ Camera	PTZ PLUS XNP-9250 8MP 25x PTZ Camera	PTZ PLUS XNP-8250 6MP 25x PTZ Camera	PTZ PLUS XNP-6400 2MP 40x PTZ Camera
Imaging Device	1/2.8" CMOS					
Resolution / Max. Frame Rate	4K / 30fps	6MP / 30fps	2MP / 60fps	4K / 30fps	6MP / 30fps	2MP / 60fps
Min. Illumination	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0Lux(IR LED On)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec)	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec)
Video Out	–					
Focal Length (Zoom Ratio)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	4.25~170mm(40x) zoom (digital 32x, total 1280x zoom)	5~125mm(25x) zoom (digital 32x, total 800x zoom)	5~125mm(25x) zoom (digital 32x, total 800x 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: 65.66°(Wide)~1.88°(Tele) V: 39.40°(Wide)~1.09°(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: 65.66°(Wide)~1.88°(Tele) V: 39.40°(Wide)~1.09°(Tele)
Pan / Tilt / Rotate Range	360° Endless / 110°(−20°~90°) / –	360° Endless / 110°(−20°~90°) / –	360° Endless / 110°(−20°~90°) / –	360° Endless / 110°(−20°~90°) / –	360° Endless / 110°(−20°~90°) / –	360° Endless / 110°(−20°~90°) / –
IR Viewable Length	200m(656.17ft), Wise IR	200m(656.17ft), Wise IR	200m(656.17ft), Wise IR	–	–	–
Day & Night	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule	Auto(ICR)/Colour/BW/Schedule
Wide Dynamic Range	Extreme WDR(120dB)	Extreme WDR(120dB)	Extreme WDR(150dB)	Extreme WDR(120dB)	Extreme WDR(120dB)	Extreme WDR(150dB)
Digital Noise Reduction	SSNR V					
Digital Image Stabilization	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support(built-in gyro sensor)
Analytics	Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Shock detection * Audio detection, Sound classification(with NW I/O Box)					
Business Intelligence	–					
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)					
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)					
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG					
WiseStream	Manual(5ea area), WiseStream II					
Streaming	Up to 10 profiles					
Edge Storage	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 2slot 1TB	Micro SD/SDHC/SDXC 2slot 1TB
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) 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	−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	−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	−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	−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
Certification	IP66, IK10, NEMA4X, NEMA−TS 2(2.2.8, 2.2.9)					
Power Consumption	Typical 20W, Max 40W	Typical 20W, Max 40W	Typical 20W, Max 40W	Typical 20W, Max 25W	Typical 20W, Max 25W	Typical 20W, Max 25W
Product Dimensions / Weight	ø158x293.3mm(6.22x11.55") 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)	ø158x293.3mm(6.22x11.55") / 3200g(7.05lb)
Additional Features	Upgraded preset accuracy, object auto tracking, Target lock tracking Included SFP slot in HPoE injector					

*Operating Temperature note for XNP-9250R/XNP-8250R: −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*

NETWORK

	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	XNZ-6320A 2MP 32x Zoom Camera	XNZ-L6320A 2MP 32x Zoom Camera
Imaging Device	1/2.8" 2MP CMOS	1/2" 2MP CMOS	1/2.8" 2MP CMOS	1/2.8" 2MP CMOS	1/2.8" 2MP CMOS	
Resolution / Max. Frame Rate	2MP / 60fps				2MP/ 60fps	
Min. Illumination	Colour: 0.02Lux (F1.6) B/W: 0Lux (IR LED on)	Colour: 0.01Lux (F1.5, 1/30sec) BW: 0Lux (IR LED)	Colour: 0.03 Lux (1/30sec, F1.6, 30IRE) B/W: 0.003 Lux (1/30sec, F1.6, 30IRE)	Colour: 0.015Lux(F1.4, 1/30sec) BW: 0.0015Lux(F1.4, 1/30sec)	Colour: 0.05Lux (1/30sec, F1.6) B/W: 0.005Lux (1/30sec, F1.6)	Colour: 0.05Lux (1/30sec, F1.6) B/W: 0.005Lux (1/30sec, F1.6)
Video Out	CVBS: 1.0 Vp−p / 75Ω composite, 720x480(N), 720x576(P) for installation		CVBS: 1.0 Vp−p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation		CVBS 1.0 Vp−p, Micro USB Type B	CVBS 1.0 Vp−p
Focal Length (Zoom Ratio)	4.75~261.4mm(55x) zoom	6~222mm(37x) zoom	5.2~62.4mm(12x) zoom (digital 32x, total 137.6x zoom)	2.8~12mm(4.3x) zoom (digital 32x, total 137.6x zoom)	4.44 ~ 142.6mm (Optical 32X) (digital 32x, total 1024x zoom)	4.44 ~ 142.6mm (Optical 32X) (digital 32x, total 1024x zoom)
Angular Field of View	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)	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)
Pan / Tilt / Rotate Range	360° Endless / 95° (−5°~90°) / –	360° Endless / 190°(−5°~185°) / –	360° Endless / 190° (−5°~185°) / –	0°~355° / 0°~90°	–	–
IR Viewable Length	500m(1,640.42ft)	350m(1,148.29ft)	–	–	–	–
Day & Night	Auto(ICR)				Auto(ICR)	Auto(ICR)
Wide Dynamic Range	150dB				120dB	120dB
Digital Noise Reduction	SSNR V					
Digital Image Stabilization	Support(built-in gyro sensor)					
Analytics	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification, Shock detection		Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification		Intelligent analytics, Audio detection, Sound classification Shock detection	Intelligent analytics, Audio detection Sound classification
Business Intelligence	–	–	–	–	–	–
Alarm I/O	Input 4ea / Output 2ea	Input 4ea / Output 2ea	Input 1ea / Output 1ea	Input 1ea / Output 1ea	1 / 2	1 / 1
Audio I/O	Selectable(mic in/line in), Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms				Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265/H.264, MJPEG					
WiseStream	Manual(5ea area), WiseStream II					
Streaming	Up to 10 profiles				Up to 10 profiles	Up to 10 profiles
Edge Storage	Micro SD/SDHC/SDXC 2slot 512GB	SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 2slot 512GB	Micro SD/SDHC/SDXC 2slot 512GB	Micro SD/SDHC/SDXC 2 slot 512GB	Micro SD/SDHC/SDXC 1slot 256GB
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform					
Operating Temperature / Humidity	24VAC: −50°C~+55°C (−58°F~+131°F), Less than 95% RH−Non−Condensing HPoE: −40°C~+55°C (−40°F~+131°F) / Less than 95% RH−Non−Condensing * Start up should be done at above −35°C FAN/Heater included	−50°C~+55 C°(−58°F~+131°F)	−30°C~+55°C (−22°F~+131°F) / Less than 90% RH	−30°C~+55°C (−22°F~+131°F) / Less than 90% RH	−10°C~+55°C(−14°F~+131°F) / Less than 90% RH	−10°C~+55°C(−14°F~+131°F) / Less than 90% RH
Certification	IP66, IK10	IP66, IK10	IP66, IK10	IP66, IK10		
Power Consumption	24VAC: Max. 92W (typical : 30W) HPoE : Max. 60W (typical : 30W)	24VAC: Max 90W	Max. 12W	DC12V: Max. 8.6W PoE : Max. 9.6W	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
Product Dimensions / Weight	ø236.9x407.7mm(9.33x16.05"), 7.1Kg(15.65 lb)	ø236.9x407.7mm(9.33x16.05"), 7.1Kg(15.65 lb)	ø168x161.5mm(6.61x6.36"), 1.9kg(4.19 lb)	ø136x106mm(5.35x4.17"), 780g(1.72 lb)	96 x 76 x 143.5mm(3.78x2.99x5.65"), 578g (1.27 lb)	72 x 63.9 x 135.4mm(2.83x2.52x5.33"), 480g(1.06 lb)
Additional Features	Defog, Auto tracking				Defog	Defog

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	PNM-9031RV 15MP 192° IR Panoramic Camera	PNM-9022V 8.3MP 180°/220° Panoramic Camera	PNM-9085RQZ1 5MP x 4CH IR PTRZ Multi-directional Camera	PNM-9084RQZ1 2MP x 4CH IR PTRZ Multi-directional Camera
Imaging Device	1/2.8" 5MP CMOS (x4)	1/2.8" 4CH	1/1.8" 5MP CMOS x 4CH	1/2.8" CMOS x 4CH
Resolution / Max. Frame Rate	15MP / 20fps	8.3MP / 30fps	8MP / 30fps	8MP / 60fps
Min. Illumination	Colour: 0.1Lux(F1.6, 1/30sec) BW: 0Lux(IR LED on)	Colour: 0.3Lux(F1.6) Colour: 0.03Lux(F1.6)	Colour: 0.11lux(F1.92, 30 IRE) BW: 0Lux(IR LED on)	Colour: 0.05lux(F1.6, 30 IRE) BW: 0Lux(IR LED on)
Video Out	Micro USB Type B	Micro USB Type B	–	–
Focal Length (Zoom Ratio)	4.3mm Fixed	2.8mm fixed focal	4.13~9.4mm(2.3x)motorized varifocal	3.2~10mm(3.1x) motorized varifocal
Angular Field of View	H: 196° / V: 64° (Min distance 5m) H: 197° / V: 64° (Max distance 100m)	H: 209°, V: 83.3°	H: 87.58°(Wide)~37.34°(Tele) / V: 64.58°(Wide)~28.04°(Tele) / D: 112.46°(Wide)~46.85°(Tele)	H: 109.0°(Wide)~33.2°(Tele) V: 57.4°(Wide)~18.7°(Tele) D: 132.0°(Wide)~38.0°(Tele)
Pan / Tilt / Rotate Range	0~360° / 0~60° / –	0°~355° / 0°~60° / –	Remote adjustment (Max. 200cycles) 0~360° / 35~80° / 0~90	Remote adjustment (Max. 200cycles) 0~360° / 35~80° / 0~90
IR Viewable Length	20m(65.62ft)	–	30m(98.43ft)	30m(98.43ft)
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB	extreme WDR(120dB)	120dB	120dB
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	–	–	Support	Support
Analytics	Defocus detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line, Audio detection	Defocus detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line, Audio detection	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection
Business Intelligence	Heatmap	Heatmap	–	–
Alarm I/O	2 / 1.	1 / 1.	1 / 1	1 / 1
Audio I/O	Selectable (mic in/line in)	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out
Video Compression	H.265/H.264, MJPEG	H.265, H.264, MJPEG	H.265/H.264, MJPEG	H.265/H.264, MJPEG
WiseStream	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 3 profiles	Up to 10 profiles	Up to 10 profiles	Up to 10 profiles
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB (256GBx2)	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC 4slot 256GB(each CH)	Micro SD/SDHC/SDXC 4slot 256GB(each CH)
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API)	ONVIF Profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/T, SUNAPI(HTTP API) Hanwha Vision Open Platform
Operating Temperature / Humidity	-40°C~+55°(-40°F~+131°F) ※ Startup should be above -30℃ Less than 95% RH(Non-condensing)	-40°C~+60°C(-40°F~+131°F) / Less than 95% RH(Non-condensing) ※ Maximum temperature : +60°C (intermittent)	-40°C~+55°C(-40°F~+131°F) / Less than 90% RH	-40°C~+55°C(-40°F~+131°F) / Less than 90% RH
Certification	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X
Power Consumption	PoE+: Max 23.5W, Typical 18.0W 12VDC: Max 20.5W, Typical 16.0W	PoE+: Max 18W, Typical 10.4W	PoE: Max. 45 W, Typical 33.7 W 12VDC: Max. 42 W, Typical 32 W	PoE: Max. 45 W, Typical 30 W 12VDC: Max. 38 W, Typical 28.2 W
Product Dimensions / Weight	Ø253x170mm / 2.6Kg	Ø253 x 165mm (Ø9.96"" x 6.5"") 3200g	Ø315x145.9mm(12.40"x5.74") / 5.2 kg(11.5lb)	Ø315x145.9mm(12.40"x5.74") / 5.2 kg(11.5lb)
Additional Features	–	4CH Stitching	Motorized PTRZ	Motorized PTRZ

	PNM-9084QZ1 2MP x 4CH PTRZ Multi-directional Camera	PNM-8082VT 2MP x 3CH Multi-directional Camera	PNM-12082RVD 6MP x 2CH Multi-directional Camera	PNM-7082RVD 2MP x 2CH Multi-directional Camera
Imaging Device	1/2.8" CMOS x 4CH	1/2.8" CMOS 3CH	1/2.8" CMOS x 2CH	1/2.8" CMOS x 2CH
Resolution / Max. Frame Rate	8MP / 60fps	2MP / 30fps	6MP / 15fps	2MP / 30fps
Min. Illumination	Colour: 0.04lux(F2.2, 1/30sec) BW: 0.004lux(F2.2, 1/30sec)	Colour: 0.04lux(F2.2) BW: 0.004lux(F2.2)	Colour: 0.16lux(F1.67, 1/30sec, 30IRE) BW: 0lux(IR LED on)	Colour: 0.035lux(F2.2, 1/30sec, 30IRE) BW: 0lux(IR LED on)
Video Out	–	CVBS: 1.0 Vp~p	micro USB Type B	micro USB Type B
Focal Length (Zoom Ratio)	3~6mm(2x) motorized varifocal	3~6mm(2x) motorized varifocal	3.54~6.69mm(1.9x) motorized varifocal	3~6mm(2x) motorized varifocal
Angular Field of View	H: 107°(Wide)~56.3°(Tele) V: 57°(Wide)~31.5°(Tele) D: 126°(Wide)~64.3°(Tele)	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	Remote adjustment (Max. 200cycles) 0~360° / 0~73° / 0~90°	0~360° / 0~73° / 0~90°	0~355° / 0~78° / 0~180°	0~355° / 0~78° / 0~180°
IR Viewable Length	–	–	25m(82ft)	25m(82ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	120dB	extreme WDR(150dB)	extremeWDR(120dB)	extremeWDR(150dB)
Digital Noise Reduction	SSNR V	SSNR V	WiseNR, SSNR V	WiseNR, SSNR V
Digital Image Stabilization	Support	Support	–	–
Analytics	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line	Analytics events※ -Defocus detection, Motion detection, Tampering, Virtual line(Crossing/Direction), Virtual area(Loitering/Enter/Exit) ※ Support Audio detection, Sound classification via optional SPM-4210I/O box	
Business Intelligence	–	–	–	–
Alarm I/O	1 / 1	–	–	–
Audio I/O	Selectable(mic in/line in) / Line out	–	–	–
Video Compression	H.265/H.264, MJPEG	H.265, H.264, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 10 profiles	Up to 10 profiles	Up to 10 profiles	Up to 10 profiles
Edge Storage	Micro SD/SDHC/SDXC 4slot 256GB(each CH)	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC 1slot Max. 512GB	Micro SD/SDHC/SDXC 1slot Max. 512GB
Application Programming Interface	ONVIF Profile S/T SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/G/T SUNAPI(HTTP API)	ONVIF Profile S/T SUNAPI(HTTP API) Open platform	ONVIF Profile S/T SUNAPI(HTTP API) Open platform
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / Less than 90% RH ※Start up should be above at -35°C			
Certification	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X	IP66/IP67, NEMA4X, IK10	IP66/IP67, NEMA4X, IK10
Power Consumption	Max. 33W, Typical 20W	PoE+: Max : 16.5W, Typical : 8.2W	PoE+: Max 18.3W, typical 13.5W	PoE+: Max 17W, typical 12.5W
Product Dimensions / Weight	Ø251x116.5mm / 3Kg	Ø251 x 116.5mm (Ø9.88"" x 4.59"") 3kg (6.6lb)	215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67") / 1330g	215(W)x135(D)x93.2(H)mm(8.46"x5.31"x3.67") / 1330g
Additional Features	Motorized PTRZ	3CH Multi-directional	–	–

ANALOG

PERIPHERAL

INSTALLATION SOLUTION

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

Imaging Device	–
Resolution / Max. Frame Rate	2MP / 30fps
Min. Illumination	–
Video Out	HDMI(1920×1080, Quad view support)
Focal Length (Zoom Ratio)	–
Angular Field of View	–
Pan / Tilt / Rotate Range	–
IR Viewable Length	–
Day & Night	Auto(electrical)
Wide Dynamic Range	extreme WDR(150dB)
Digital Noise Reduction	SSNRV
Digital Image Stabilization	Support
Analytics	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line
Business Intelligence	–
Alarm I/O	1 / 1.
Audio I/O	Selectable(mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
WiseStream	WiseStream II
Streaming	Up to 10 profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) 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	W 200 x H 37 x D 146mm (7.87" x 1.46" x 5.75") 715g (1.58lb)
Additional Features	Optional pinhole/fixed lens

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

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

SLA-T1080FA
2MP lens for PNM-9000QB

	SLA-T4680A/T4680VA	SLA-T2480A/T2480VA	SLA-T1080FA
Imaging Device	1/2.8" 2MP CMOS	1/2.8" 2MP CMOS	1/2.8" 2MP CMOS
Min. Illumination	Colour: 0.06Lux(F2.5)	Colour: 0.045Lux(F2.0)	Colour: 0.03Lux(F1.6)
Focal Length (Zoom Ratio)	4.6mm fixed focal	2.4mm fixed focal	1.6mm fixed focal
Angular Field of View	H: 73° / V: 39° / D: 85°	H: 138° / V: 73° / D: 165°	H: 187° / V: 113.9°
Product Dimensions / Weight	Ø24 x L49.8mm, 310g (SLA-T4681) W30 x H27.9 x D45mm, 321g (SLA-T4681V)	Ø24 x L49.8mm, 318g (SLA-T2481) W30 x H27.9 x D45mm, 328g (SLA-T2481V)	Ø35 x L68.9mm 430g

SLA-T2480WA
2MP Lens Module

SLA-T2480WDA
2MP Waterproof Dome Lens Module

SLA-T4680DA /T4680DSA
Doorjam camera for PNM-9000QB, XNB-6002

	SLA-T2480WA	SLA-T2480WDA	SLA-T4680DA /T4680DSA
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/2.8" 2M CMOS
Min. Illumination	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, 1/30sec, 30IRE) BW: 0.045Lux(F2.0, 1/30sec, 30IRE) * with PNM-9000QB, XNB-6002	Color: 0.06Lux(F2.5) BW: 0.06Lux(F2.5) * with PNM-9000QB, XNB-6002, PNM-C16000QB
Focal Length (Zoom Ratio)	2.4mm fixed focal	2.4mm fixed focal	4.6mm fixed focal
Angular Field of View	H: 138° / V: 73° / D: 165°	H: 138° / V: 73° / D: 165°	H: 73° / V: 39° / D: 85°
Product Dimensions / Weight	" φ 35x63.2mm(φ 1.38x2.49""), 101g(0.22lb) Cable: 8m(26.2ft)"	" φ 110.0x77.0mm(φ 3.54x2.36""), 450g(0.99lb) Cable: 8m(26.2ft)"	Housing: 42.9(W)x33.0(H)x170.0(D) mm(1.69""x1.30""x6.69""), 70g(0.15lb) Lens: 30(W)x27.9(H)x45(D) mm(1.18""x1.10""x1.77""), 41g(0.09lb) Cable: 8m(26.2ft)"

ANALOG

PERIPHERAL

INSTALLATION SOLUTION

QNO-8080R
5MP IR Bullet Camera

QNO-8020R
5MP IR Bullet Camera

QNO-8010R
5MP IR Bullet Camera

QND-8080R
5MP IR Dome Camera

QND-8020R
5MP IR Dome Camera

	QNO-8080R	QNO-8020R	QNO-8010R	QND-8080R	QND-8020R
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	5MP / 30fps	5MP / 30fps	5MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F2.0) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)
Video Out	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p
Focal Length (Zoom Ratio)	3.2 ~ 10mm (3.1x) motorized varifocal	4.0mm fixed	2.8mm fixed	3.2 ~ 10mm (3.1x) motorized varifocal	4.0mm fixed
Angular Field of View	H: 100.3° (Wide) ~ 31.2° (Tele) / V : 72.3° (Wide) ~ 23.5° (Tele) / D : 133.1° (Wide) ~ 38.8° (Tele)	H: 79.8° / V : 58.1° / D : 105.9°	H : 104.7° / V : 76.5° / D : 136.0°	H: 100.3° (Wide) ~ 31.2° (Tele) / V : 72.3° (Wide) ~ 23.5° (Tele) / D : 133.1° (Wide) ~ 38.8° (Tele)	H : 79.8° / V : 58.1° / D : 105.9°
Pan / Tilt / Rotate Range	–	–	–	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	30m (98.43ft)	25m (82.02ft)	20m (65.62ft)	20m (65.62ft)	20m (65.62ft)
Day & Night	Auto (ICR)	Auto (ICR)	Auto (ICR)	Auto (ICR)	Auto (ICR)
Wide Dynamic Range	120dB	120dB	120dB	120dB	120dB
Digital Noise Reduction	SSNR	SSNR	SSNR	SSNR	SSNR
Digital Image Stabilization	–	–	–	–	–
Analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics
Business Intelligence	–	–	–	–	–
Alarm I/O	1/1				
Audio I/O	–	–	–	–	–
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
WiseStream	WiseStream II	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 3 Profiles	Up to 3 Profiles	Up to 3 Profiles	Up to 3 Profiles	Up to 3 Profiles
Edge Storage	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, 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/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	−30°C ~ +55°C (−22°F ~ +131°F) * Start up above −20°C (−4°F)	−30°C ~ +55°C (−22°F ~ +131°F) * Start up above −20°C (−4°F)	−30°C ~ +55°C (−22°F ~ +131°F) * Start up above −20°C (−4°F)	−10°C ~ +50°C (+14°F ~ +122°F)	−10°C ~ +50°C (+14°F ~ +122°F)
Certification	IP66, IK10	IP66, IK10	IP66, IK10	–	–
Power Consumption	PoE : Max 9.5W, typical 7.3W	PoE : Max 7.5W, typical 6.1W	PoE : Max 7.5W, typical 6.1W	PoE : Max 8.9W, typical 6.6W	PoE : Max 6.8W, typical 5.0W
Dimensions (WxHxD) / Weight	Ø91 x 322.9mm (Ø3.58"" x 12.71"") 1190g (2.624 lb)	Ø70.0 x 246.0mm (Ø2.76"" x 9.69"") 680g (1.499 lb)	Ø70.0 x 246.0mm (Ø2.76"" x 9.69"") 680g (1.499 lb)	Ø120.3 x 102.0mm (Ø4.74"" x 4.02"") 430g (0.948 lb)	Ø110.6 x 89.5mm (Ø4.35"" x 3.52"") 360g (0.794 lb)
Additional Features	Hallway View	Hallway View	Hallway View	Hallway View	Hallway View

NETWORK

ANALOG

PERIPHERAL

INSTALLATION SOLUTION

	Q mini QND-8010R 5MP IR Dome Camera	Q mini QND-8021 5MP Dome Camera	QND-8011 5MP Dome Camera
Imaging Device	1/2.8" CMOS		
Resolution / Max. Frame Rate	5MP / 30fps	5MP / 30fps	5MP / 30fps
Min. Illumination	Colour : 0.15Lux (F2.0) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F1.6)	Colour : 0.15Lux (F2.0)
Video Out	CVBS 1.0 Vp-p	Micro HDMI	Micro HDMI
Focal Length (Zoom Ratio)	2.8mm fixed	4mm fixed	2.8mm fixed
Angular Field of View	H : 104.7° / V : 76.5° / D : 136°	H : 80.1° / V : 58° / D : 105.8°	H : 104.4° / V : 76.7° / D : 136.1°
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 69° / 0° ~ 355°	0° ~ 350° / 0° ~ 69° / 0° ~ 355°
IR Viewable Length	20m (65.62ft)	–	–
Day & Night	Auto (ICR)	Auto (Electrical)	Auto (Electrical)
Wide Dynamic Range	120dB		
Digital Noise Reduction	SSNR		
Digital Image Stabilization	–		
Analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics
Business Intelligence	–	People counting	People counting
Alarm I/O	1 / 1	–	–
Audio I/O	–		
Video Compression	H.265 / H.264, MJPEG		
WiseStream	WiseStream II		
Streaming	Up to 3 Profiles		
Edge Storage	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC
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	-10°C ~ +50°C (+14°F ~ +122°F)	-10°C ~ +40°C (+14°F ~ +104°F)	-10°C ~ +40°C (+14°F ~ +104°F)
Certification	–	IP42, IK08	IP42, IK08
Power Consumption	PoE : Max 7.5W, typical 5.8W	PoE : Max 5W, typical 4W	PoE : Max 5W, typical 4W
Product Dimensions / Weight	Ø110.6 x 89.5mm (Ø4.35" x 3.52") 360g (0.794lb)	Ø99 x 56mm (Ø3.9" x 2.2") 165g (0.364lb)	Ø99 x 56mm (Ø3.9" x 2.2") 165g (0.364lb)
Additional Features	Hallway View	Super compact design, Hallway View	Super compact design, Hallway View

	QNV-8080R 5MP IR Vandal Dome Camera	QNV-8020R 5MP IR Vandal Dome Camera	QNV-8010R 5MP IR Vandal Dome Camera	QNB-8002 5MP Box Camera	QNE-8011R 5MP IR Flateye Camera
Imaging Device	1/2.8" CMOS				
Resolution / Max. Frame Rate	5MP / 30fps				
Min. Illumination	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.15Lux (F2.0) B/W : 0Lux (IR LED on)	Colour : 0.07Lux (F1.2)	Colour : 0.15Lux (F2.0) B/W : 0Lux (IR LED on)
Video Out	CVBS 1.0 Vp-p				
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal	4.0mm fixed	2.8mm fixed	–	2.8mm fixed
Angular Field of View	H : 100.3° (Wide) ~ 31.2° (Tele) V : 72.3° (Wide) ~ 23.5° (Tele) D : 133.1° (Wide) ~ 38.8° (Tele)	H : 79.8° / V : 58.1° / D : 105.9°	H : 104.7° / V : 76.5° / D : 136°	–	H : 104.4° V : 76.7° D : 136.1°
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	–	0° ~ 350° / 0° ~ 75° / 0° ~ 360°
IR Viewable Length	30m (98.42ft)	25m (82.02ft)	20m (65.62ft)	–	20m (65.62ft)
Day & Night	Auto (ICR)				
Wide Dynamic Range	120dB				
Digital Noise Reduction	SSNR				
Digital Image Stabilization	–				
Analytics	Intelligent analytics				
Business Intelligence	–				
Alarm I/O	1 / 1	1 / 1	1 / 1	1 / 1	–
Audio I/O	–	–	–	Line in / Line out	–
Video Compression	H.265 / H.264, MJPEG				
WiseStream	WiseStream II				
Streaming	Up to 3 Profiles				
Edge Storage	micro SD/SDHC/SDXC				
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform				
Operating Temperature / Humidity	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)
Certification	IP66, IK10	IP66, IK10	IP66, IK10	–	IP67, IK10
Power Consumption	PoE : Max 8.9W, typical 6.6W	PoE : Max 7.2W, typical 5.4W	PoE : Max 7.5W, typical 5.8W	PoE : Max 6.4W, typical 4.6W 12VDC : Max 5.8W, typical 4.1W	PoE : Max 7.4W, typical 5.5W
Product Dimensions / Weight	Ø137 x 106.1mm (Ø5.39" x 4.18") 700g (1.543lb)	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.124lb)	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.124lb)	W 73.8 x H 66.6 x D 136.2mm (2.91" x 2.62" x 5.36") 320g (0.71lb)	Ø125 x 87.35mm (Ø4.92" x 3.44") 645g (1.422lb)
Additional Features	Hallway View				

NETWORK / ANALOG / PERIPHERAL / INSTALLATION SOLUTION

	QNO-7082R 4MP IR Bullet Camera	QNO-7032R 4MP IR Bullet Camera	QNO-7022R 4MP IR Bullet Camera	QNO-7012R 4MP IR Bullet Camera
Imaging Device	1/3" CMOS			
Resolution / Max. Frame Rate	4MP / 30fps			
Min. Illumination	Colour : 0.1Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)
Video Out	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS: 1.0 Vp-p	CVBS: 1.0 Vp-p
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal	6mm fixed focal	4mm fixed focal	2.8mm fixed focal
Angular Field of View	H : 98.6°(Wide) ~ 30.8°(Tele) V : 52.3°(Wide) ~ 17.3°(Tele) D : 115.7°(Wide) ~ 35.3°(Tele)	H : 49.0°/ V : 27.6°/ D : 55.6 °	H : 78.2°/ V : 41.2°/ D : 92°	H : 107.5°/ V : 59.7°/ D : 122°
Pan / Tilt / Rotate Range	–	–	–	–
IR Viewable Length	30m (98.42ft)	30m (98.42ft)	25m (82.02ft)	20m (65.62ft)
Day & Night	Auto (ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR			
Digital Image Stabilization	–	–	–	–
Analytics	Motion detection, Tampering, Defocus detection , Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)	Intelligent analytics	Motion detection, Tampering, Defocus detection , 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	–	–	–	–
Alarm I/O	1/1	1/1	1/1	1/1
Audio I/O	Line in / –	Selectable (mic in/line in) / –	Selectable (mic in/line in) / –	Selectable (mic in/line in) / –
Video Compression	H.265 / H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
WiseStream	WiseStream II			
Streaming	Up to 3 Profiles			
Edge Storage	micro SD/SDHC/SDXC 1slot 128GB			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF Profile S/G/T, SUNAPI (HTTP API)
Operating Temperature / Humidity	-40℃ ~ +55℃ (-40℉ ~ +131℉) / 0~95% RH * Start up should be done at -30℃ or above			
Certification	IP66, IK10	IP66, IK10	IP66, IK10	IP66, IK10
Power Consumption	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 10.7W, typical 8W 12VDC: Max 9.1W, typical 6.8W	PoE: Max 10.7W, typical 8W 12VDC: Max 9.1W, typical 6.8W
Product Dimensions / Weight	Ø78.0 x 259.8mm (Ø3.07 x 10.23"), 900g (1.984lb)	Ø70.0 x 246.0mm (Ø2.76 x 9.69"), 700g (1.543lb)	PoE: Max 10.7W, typical 8W 12VDC: Max 9.1W, typical 6.8W	PoE: Max 10.7W, typical 8W 12VDC: Max 9.1W, typical 6.8W
Additional Features	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line			

	QNO-6082R/6082R1 2MP IR Bullet Camera		QNO-6022R/6022R1 2MP IR Bullet Camera		QNO-6012R/6012R1 2MP IR Bullet Camera	
Imaging Device	1/2.8" CMOS					
Resolution / Max. Frame Rate	2MP / 30fps					
Min. Illumination	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED On)					
Video Out	CVBS 1.0 Vp-p					
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal		4mm fixed		2.8mm fixed	
Angular Field of View	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)		H : 87.6° / V : 46.4° / D : 104.5°		H : 113.74° / V : 61.5° / D : 134.45°	
Pan / Tilt / Rotate Range	–					
IR Viewable Length	30m (98.43ft)		25m (82.02ft)		20m (65.62ft)	
Day & Night	Auto (ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	SSNR					
Digital Image Stabilization	–					
Analytics	Intelligent analytics					
Business Intelligence	–					
Alarm I/O	1 / 1					
Audio I/O	Selectable (mic in/line in)	–	Selectable (mic in/line in)	–	Selectable (mic in/line in)	–
Video Compression	H.265 / H.264, MJPEG					
WiseStream	WiseStream II					
Streaming	Up to 3 Profiles					
Edge Storage	micro SD/SDHC/SDXC					
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform					
Operating Temperature / Humidity	-30℃ ~ +55℃ (-22℉ ~ +131℉) * Start up above -20℃ (-4℉)					
Certification	IP66, IK10					
Power Consumption	PoE : Max 7.4W, typical 5.4W 12VDC : Max 6.5W, typical 4.8W		PoE : Max 7W, typical 5.2W 12VDC : Max 6.1W, typical 4.5W		PoE : Max 7W, typical 5.2W 12VDC : Max 6.1W, typical 4.5W	
Product Dimensions / Weight	Ø78 x 259.8mm (Ø3.07" x 10.23") 900g (1.984lb)		Ø70 x 246mm (Ø2.76" x 9.69") 700g (1.543lb)		Ø70 x 246mm (Ø2.76" x 9.69") 700g (1.543lb)	
Additional Features	Hallway View					

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	QND-7082R 4MP IR Dome Camera	QND-7032R 4MP IR Dome Camera	QND-7022R 4MP IR Dome Camera	QND-7012R 4MP IR Dome Camera
Imaging Device	1/3" CMOS			
Resolution / Max. Frame Rate	4MP / 30fps			
Min. Illumination	Colour : 0.1Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)
Video Out	CVBS 1.0 Vp-p			
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal	6mm fixed focal	4mm fixed focal	2.8mm fixed focal
Angular Field of View	H : 98.6°(Wide) ~ 30.8°(Tele) V : 52.3°(Wide) ~ 17.3°(Tele) D : 115.7°(Wide) ~ 35.3°(Tele)	H : 49.0° / V : 27.6° / D : 55.6°	H : 78.2° / V : 41.2° / D : 92°	H : 107.5° / V : 59.7° / D : 122°
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°			
IR Viewable Length	20m (65.62ft)			
Day & Night	Auto (ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR			
Digital Image Stabilization	–			
Analytics	Intelligent analytics			
Business Intelligence	–			
Alarm I/O	1/1			
Audio I/O	Built-in mic / –			
Video Compression	H.265 / H.264, MJPEG			
WiseStream	WiseStream II			
Streaming	Up to 3 Profiles			
Edge Storage	micro SD/SDHC/SDXC 1slot 128GB			
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI (HTTP API)			
Operating Temperature / Humidity	-10℃ ~ +55℃ (+14℉ ~ +131℉) / 0~95% RH			
Certification	–			
Power Consumption	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	PoE: Max 7.9W, typical 6.1W 12VDC: Max 7.1W, typical 5.1W	PoE: Max 7.9W, typical 6.1W 12VDC: Max 7.1W, typical 5.1W
Product Dimensions / Weight	Ø119.8 x 98.8mm (Ø4.72" x 3.89") 320g (0.705 lb)	Ø110.0 x 86.0mm (Ø4.33 x 3.39"), 255g (0.562 lb)	Ø110 x 86mm (Ø4.33" x 3.39") 255g (0.562 lb)	Ø110 x 86mm (Ø4.33" x 3.39") 255g (0.562 lb)
Additional Features	Defocus detection, Directional detection, , Motion detection, Enter/Exit, Tampering, Virtual line			

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	QND-6082R/6082R1 2MP IR Dome Camera		QND-6022R/6022R1 2MP IR Dome Camera		QND-6012R/6012R1 2MP IR Dome Camera	
Imaging Device	1/2.8" CMOS					
Resolution / Max. Frame Rate	2MP / 30fps					
Min. Illumination	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)		Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)		Colour : 0.03Lux (F2.0) B/W : 0Lux (IR LED on)	
Video Out	CVBS 1.0 Vp-p					
Focal Length (Zoom Ratio)	3.2~10mm (3.1x) motorized varifocal		4mm fixed		2.8mm fixed	
Angular Field of View	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)		H : 87.6° / V : 46.4° / D : 104.5°		H : 113.74° / V : 61.5° / D : 134.45°	
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°					
IR Viewable Length	20m (65.62ft)					
Day & Night	Auto (ICR)					
Wide Dynamic Range	120dB					
Digital Noise Reduction	SSNR					
Digital Image Stabilization	–					
Analytics	Intelligent analytics					
Business Intelligence	–					
Alarm I/O	1 / 1					
Audio I/O	Buit-in mic	–	Buit-in mic	–	Buit-in mic	–
Video Compression	H.265 / H.264, MJPEG					
WiseStream	WiseStream II					
Streaming	Up to 3 Profiles					
Edge Storage	micro SD/SDHC/SDXC					
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform					
Operating Temperature / Humidity	-10℃ ~ +55℃ (+14℉ ~ +131℉)					
Certification	–					
Power Consumption	PoE : Max 7.7W, typical 6W 12VDC : Max 6.5W, typical 5.1W		PoE : Max 7.4W, typical 6W 12VDC : Max 6.4W, typical 5.1W		PoE : Max 7.4W, typical 6W 12VDC : Max 6.4W, typical 5.1W	
Product Dimensions / Weight	Ø119.8 x 98.8mm (Ø4.72" x 3.89") 320g (0.705lb)		Ø110 x 86mm (Ø4.33" x 3.39") 255g (0.562lb)		Ø110 x 86mm (Ø4.33" x 3.39") 255g (0.562lb)	
Additional Features	Hallway View					

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	QND-6021 2MP Dome Camera	QND-6011 2MP Dome Camera	QNV-7082R 4MP IR Vandal Dome Camera
Imaging Device	1/2.8″ CMOS	1/2.8″ CMOS	1/3″ CMOS
Resolution / Max. Frame Rate	2MP / 30fps	2MP / 30fps	4MP / 30fps
Min. Illumination	Colour : 0.03Lux (F1.6)	Colour : 0.03Lux (F2.0)	Colour : 0.1Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)
Video Out	–	–	CVBS 1.0 Vp-p
Focal Length (Zoom Ratio)	4mm fixed	2.8mm fixed	3.2~10mm (3.1x) motorized varifocal
Angular Field of View	H : 87.6° / V : 46.4° / D : 104.5°	H : 113.74° / V : 61.5° / D : 134.45°	H : 98.6° (Wide) ~ 30.8° (Tele) V : 52.3° (Wide) ~ 17.3° (Tele) D : 115.7° (Wide) ~ 35.3° (Tele)
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 69° / 0° ~ 355°	0° ~ 350° / 0° ~ 69° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	–	–	30m (98.42ft)
Day & Night	Auto (Electrical)	Auto (Electrical)	Auto (ICR)
Wide Dynamic Range		120dB	
Digital Noise Reduction		SSNR	
Digital Image Stabilization		–	
Analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics
Business Intelligence	People counting	People counting	–
Alarm I/O	–	–	1 / 1
Audio I/O	–	–	Line in / –
Video Compression		H.265 / H.264, MJPEG	
WiseStream		WiseStream II	
Streaming		Up to 3 Profiles	
Edge Storage	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC 1slot 128GB
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform	ONVIF Profile S/G/T, SUNAPI (HTTP API)
Operating Temperature / Humidity	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-10℃ ~ +55℃ (+14℉ ~ +131℉)	-40℃ ~ +55℃ (-40℉ ~ +131℉) / 0~95% RH * Start up should be done at -30℃ or above
Certification	IP42, IK08	IP42, IK08	IP66, IK10
Power Consumption	PoE : Max 4.8W, typical 2.8W	PoE : Max 4.8W, typical 2.8W	PoE : Max 11.4W, typical 8.5W 12VDC : Max 9.6W, typical 7.2W
Product Dimensions / Weight	Ø99 x 56mm (Ø3.9″ x 2.2″) 145g (0.320lb)	Ø99 x 56mm (Ø3.9″ x 2.2″) 145g (0.320lb)	Ø137 x 106.1mm (Ø5.39″ x 4.18″) 710g (1.565 lb)
Additional Features	Super compact design, Hallway View	Super compact design, Hallway View	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line

	QNV-7032R 4MP IR Vandal Dome Camera	QNV-7022R 4MP IR Vandal Dome Camera	QNV-7012R 4MP IR Vandal Dome Camera	QNV-6082R/6082R1 2MP IR Vandal Dome Camera
Imaging Device	1/3″ CMOS	1/3″ CMOS	1/3″ CMOS	1/2.8″ CMOS
Resolution / Max. Frame Rate	4MP / 30fps	4MP / 30fps	4MP / 30fps	2MP / 30fps
Min. Illumination	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F1.6, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.15Lux (F2.0, 1/30sec) B/W : 0Lux (IR LED On)	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)
Video Out		CVBS 1.0 Vp-p		
Focal Length (Zoom Ratio)	6mm fixed focal	4mm fixed focal	2.8mm fixed focal	3.2~ 10mm (3.1x) motorized varifocal
Angular Field of View	H : 49.0° / V : 27.6° / D : 55.6°	H : 78.2° / V : 41.2° / D : 92°	H : 78.2° / V : 41.2° / D : 92°	H : 109° (Wide) ~ 33.2° (Tele) V : 57.4° (Wide) ~ 18.7° (Tele) D : 132° (Wide) ~ 38° (Tele)
Pan / Tilt / Rotate Range		0° ~ 350° / 0° ~ 67° / 0° ~ 355°		
IR Viewable Length	30m (98.42ft)	25m (82.02ft)	20m (65.62ft)	30m (98.42ft)
Day & Night		Auto (ICR)		
Wide Dynamic Range		120dB		
Digital Noise Reduction		SSNR		
Digital Image Stabilization		–		
Analytics		Intelligent analytics		
Business Intelligence		–		
Alarm I/O		1 / 1		
Audio I/O		Selectable (mic in/line in) / –		
Video Compression		H.265 / H.264, MJPEG		
WiseStream		WiseStreamII II		
Streaming		Up to 3 Profiles		
Edge Storage	Micro SD/SDHC/SDXC 1slot 128GB	micro SD/SDHC/SDXC 1slot 128GB	micro SD/SDHC/SDXC 1slot 128GB	micro SD/SDHC/SDXC
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF Profile S/G/T, SUNAPI (HTTP API)	ONVIF profile S/G/T, SUNAPI, Hanwha Vision Open Platform
Operating Temperature / Humidity	-40℃ ~ +55℃ (-40℉ ~ +131℉) / 0~95% RH * Start up should be done at -30℃ or above	-40℃ ~ +55℃ (-40℉ ~ +131℉) / 0~95% RH * Start up should be done at -30℃ or above	-40℃ ~ +55℃ (-40℉ ~ +131℉) / 0~95% RH * Start up should be done at -30℃ or above	-30℃ ~ +55℃ (-22℉ ~ +131℉) * Start up above -20℃ (-4℉)
Certification	IP66, IK10	IP66, IK10	–	IP66, IK10
Power Consumption		PoE : Max 10.7W, typical 8.1W 12VDC : Max 9.1W, typical 6.5W		
Product Dimensions / Weight	Ø120.3 x 91.7mm (Ø4.74 x 3.61″), 510g (1.124 lb)	Ø120.3 x 91.7mm (Ø4.74″ x 3.61″) 510g (1.124 lb)	Ø120.3 x 91.7mm (Ø4.74″ x 3.61″) 510g (1.124 lb)	Ø137 x 106.1mm (Ø5.39″ x 4.18″) 710g (1.565 lb)
Additional Features		Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line		Hallway View

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	QNV-6022R/6022R1 2MP IR Vandal Dome Camera	QNV-6012R/6012R1 2MP IR Vandal Dome Camera	QNV-6024RM 2MP IR Flat Camera	QNP-6320 2MP 32x Indoor PTZ Camera
Imaging Device	1/2.8" CMOS			
Resolution / Max. Frame Rate	2MP / 30fps			
Min. Illumination	Colour : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.03Lux (F2.0) B/W : 0Lux (IR LED on)	Colour : 0.03Lux (F2.0) B/W : 0Lux (IR LED on)	Colour: 0.05Lux (F1.6, 1/30sec) BW: 0.005Lux (F1.6, 1/30sec)
Video Out	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	–
Focal Length (Zoom Ratio)	4mm fixed	2.8mm fixed	3.6mm fixed	4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)
Angular Field of View	H: 87.6° / V: 46.4° / D: 104.5°	H: 113.74° / V: 61.5° / D: 134.45°	H: 94.8° / V: 49.3° / D: 114.3°	H: 64.66° (Wide)~2.29° (Tele) V: 38.08° (Wide)~1.30° (Tele)
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~355°	0° ~ 350° / 0° ~ 67° / 0° ~355°	±5° / 0~67° / ±90°	360° Endless / –105° (90° ~ –15°)
IR Viewable Length	25m (82.02ft)	20m (65.62ft)	15m (49.21ft)	–
Day & Night	Auto (ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR	SSNR	SSNR	SSNR V
Digital Image Stabilization	–	–	–	Support(built-in gyro sensor)
Analytics	Intelligent analytics	Intelligent analytics	Intelligent analytics	Analytics events - Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection
Business Intelligence	–	–	–	–
Alarm I/O	1 / 1	1 / 1	–	Input 4ea / Output 2ea
Audio I/O	Selectable (mic in/line in)	Selectable (mic in/line in)	Selectable (mic in/line in/built-in mic)/ Line out	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms
Video Compression	H.265 / H.264, MJPEG			
WiseStream	WiseStream II			Manual(5ea area), WiseStream II
Streaming	Up to 3 Profiles	Up to 3 Profiles	Up to 3 Profiles	Up to 10 profiles
Edge Storage	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC 1slot 256GB
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	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -20°C (-4°F)	-30°C ~ +55°C (-22°F ~ +131°F)	-10° C~+55° C(14° F~+131° F) / 0~95% RH(Non-condensing)
Certification	IP66, IK10	IP66, IK10	IP66, IK10, NEMA4X	–
Power Consumption	PoE : Max 7.4W, typical 6W 12VDC : Max 6.4W	PoE : Max 7.4W, typical 6W 12VDC : Max 6.4W	PoE : Max 6.7W, typical 5W	PoE+: Max 14.5W, typical 12W
Product Dimensions / Weight	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.124lb)	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.124 lb)	W 98.9 x H 52 x D100mm (3.89" x 2.05" x 3.94") 295g (0.65lb)	ø 152x218mm(ø 5.98x8.58"), 1 700g(3.75 lb)
Additional Features	Hallway View	Hallway View	M12 connector, Hallway View	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection

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	QNP-6320R 2MP 32x IR PTZ Camera	QNP-6320H 2MP 32x Outdoor PTZ Camera	QNP-6250 2MP 32x Outdoor PTZ Camera	QNP-6250R 2MP 25x IR PTZ Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 60fps	2MP / 60fps	2MP / 60fps
Min. Illumination	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED On)	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE), 0Lux(IR LED On)
Video Out	–	–	–	–
Focal Length (Zoom Ratio)	4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)	4.44~142.6mm(32x) zoom (digital 32x, total 1024x zoom)	4.44~111mm(25x) zoom (digital 32x, total 800x zoom)	4.44~111mm(25x) zoom (digital 32x, total 800x zoom)
Angular Field of View	H: 64.66°(Wide)~2.29°(Tele) V: 38.08°(Wide)~1.30°(Tele)	H: 64.66°(Wide)~2.29°(Tele) V: 38.08°(Wide)~1.30°(Tele)	H: 64.66°(Wide)~2.99°(Tele) V: 38.08°(Wide)~1.68°(Tele)	H: 64.66°(Wide)~2.99°(Tele) V: 38.08°(Wide)~1.68°(Tele)
Pan / Tilt / Rotate Range	360° Endless / –110° (90° ~ –20°)	360° Endless / 105°(90°~–15°)	360° Endless / 105°(90°~–15°)	360° Endless / –110° (90° ~ –20°)
IR Viewable Length	100m(328.08ft)	–	–	100m(328.08ft)
Day & Night	Auto(ICR)			
Wide Dynamic Range	120dB			
Digital Noise Reduction	SSNR V			
Digital Image Stabilization	Support(built-in gyro sensor)			
Analytics	Analytics events - Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(Via optional I/O box SPM-4210)	Analytics events - Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection		Analytics events - Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(Via optional I/O box SPM-4210)
Business Intelligence	–	–		–
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)		Input 4ea / Output 2ea	Compatible with NW I/O Box (Optional: SPM-4210)
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)		Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms	Compatible with NW I/O Box (Optional: SPM-4210)
Video Compression	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG	H.265/H.264: Main/High, MJPEG
WiseStream	Manual(Sea area), WiseStream II			
Streaming	Up to 10 profiles			
Edge Storage	Micro SD/SDHC/SDXC 1slot Max. 256GB	Micro SD/SDHC/SDXC 1slot Max. 256GB	Micro SD/SDHC/SDXC 1slot Max. 256GB	Micro SD/SDHC/SDXC 1slot Max. 256GB
Application Programming Interface	ONVIF Profile S/G/T, SUNAPI(HTTP API) Hanwha Vision Open Platform			
Operating Temperature / Humidity	-35°C~+55°C(-31°F~+131°F) * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	-35°C~+55°C(-31°F~+131°F) * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent	-10°C~+55°C(14°F~+131°F) / 0~95% RH (Non-condensing)	-35°C~+55°C(-31°F~+131°F) * Start up should be done at above -30°C 0~100%RH(Condensing) Humidity control with AIR vent
Certification	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X	–	IP66, IK10, NEMA4X
Power Consumption	PoE+: Max. 25.5W, typical 14.7W	PoE+: Max. 23W, typical 14W	PoE+: Max 14.5W, typical 12W	PoE+: Max. 25.5W, typical 14.7W
Product Dimensions / Weight	ø 158x293.3mm(ø 6.22x11.55"), 3100g(6.83lb)	ø 204.3x265mm(ø 8.04x10.43"), 2700g(5.95lb)	ø 152x218mm(ø 5.98x8.58"), 1700g(3.75 lb)	ø 158x293.3mm(ø 6.22x11.55"), 3100g(6.83lb)
Additional Features	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(with NW I/O Box)			

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INSTALLATION SOLUTION

	QNP-6250H 2MP 25x Outdoor PTZ Camera	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	1/2.8″ CMOS	1/2.8″ CMOS	1/2.3″ CMOS	1/1.8″ CMOS
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 30fps	2MP / 30fps	9MP / 30fps	4MP / 30fps
Min. Illumination	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)	Colour: 0.05Lux(F1.6, 1/30sec, 30IRE) BW: 0.005Lux(F1.6, 1/30sec, 30IRE)	Colour: 0.01Lux (F1.2)	Colour: 0.39 Lux (F2.2, 1/30sec)	Colour: 0.2 Lux (F2.5)
Video Out	–	–	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p	CVBS 1.0 Vp-p
Focal Length (Zoom Ratio)	4.44~111mm(25x) zoom (digital 32x, total 800x zoom)	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) ~ 2.99°(Tele) V: 38.08°(Wide) ~ 1.68°(Tele)	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°)	360° Endless / –105° (90°~ –15°)	–	–	–
IR Viewable Length	–	–	–	–	–
Day & Night	Auto(ICR)	Auto (ICR)	Auto (ICR)	Auto (Electrical)	Auto (Electrical)
Wide Dynamic Range	120dB	120dB	120dB	120dB	120dB
Digital Noise Reduction	SSNR V	SSNR V	SSNR	SSNR V	SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)	Support(built-in gyro sensor)	–	–	–
Analytics	**Analytics events** –Directional detection, Motion detection, Enter/Exit, Tampering, Virtualline * Audio detection(Via optional I/O box SPM-4210)		Intelligent analytics	Defocus detection, Motion detection, Tampering	Intelligent analytics
Business Intelligence	–	–	–	People counting, Heatmap	People counting, Heatmap
Alarm I/O	Compatible with NW I/O Box (Optional: SPM-4210)		1 / 1.	–	–
Audio I/O	Compatible with NW I/O Box (Optional: SPM-4210)		Line in / Line out	–	–
Video Compression	H.265, H.264, MJPEG				
WiseStream	Manual(5ea area), WiseStream II		WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 10 profiles		Up to 3 Profiles	Up to 3 profiles	Up to 3 profiles
Edge Storage	Micro SD/SDHC/SDXC 1slot Max. 256GB	micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC	micro SD/SDHC/SDXC	micro SD/SDHC/SDXC
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	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	–35°C~+55°(–31°F~+131°F) * Start up should be done at above –30°C 0~100%RH(Condensing) Humidity control with AIR vent	–35°C~+55°(–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)	–10°C ~ +40°C (+14°F ~ +104°F)	–10°C ~ +55°C (+14°F ~ +131°F)
Certification	IP66, IK10, NEMA4X	IP66, IP67, IK10, NEMA4X	–	–	IP42
Power Consumption	Max. 23W, Typ. 14W	Max. 23W, Typ. 14W	PoE : Max 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 204.3x265mm(ø 8.04x10.43″), 2700g(5.95lb)	Ø227x299.2mm(8.94x11.78″), 5400g(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)	Ø99 x 49mm (Ø3.9″ x 1.93″) 370g (0.82lb)	Ø99 x 49mm (Ø3.9″ x 1.93″) 320 g (0.705lb)
Additional Features	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line * Audio detection(with NW I/O Box)	Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, SUS316L * Audio detection(with NW I/O Box)	Hallway View	Panorama view, Busieness Intelligence	Panorama view, Busieness Intelligence

	TNO-3010T/3020T/3030T*/3040T/3050T QVGA Thermal Bullet Camera (*Low framerate available)	TNO-4030TR/4040TR VGA Radiometric Thermal Camera (Low framerate available)
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14μm)	Uncooled micro bolometer (Spectral range: 8~14μm)
Resolution	320x240	640x480, 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/25fps(60Hz/50Hz)
NETD	<60mK	<50mK
Pixel Pitch	12μm	17μm
Focal Length	2.7mm / 4.7mm / 13.7mm / 19mm / 35mm	13mm / 19mm fixed focal
Angular Field of View	H:92.0° / V:65.5° / D:125.7° (iFoV: 1.308 mRad) H:50.0° / V:36.4° / D:65.3° (iFoV: 2.73 mRad) H:16.0° / V:12.0° / D:20.0° (iFoV: 2.73 mRad) H:11.5° / V:8.7° / D: 14.4° (iFoV: 2.73 mRad) H: 6.3° / V: 4.7° / D: 7.8° (iFoV: 0.34 mRad)	H: 48.6° / V: 36.4° / D: 61.6° (iFoV: 1.308 mRad) H: 32° / V: 24.3° / D: 39.2° (iFoV: 0.895 mRad)
Min. Object Distance	0.3m(0.98ft) / 1m(3.28ft) / 8m(26.25ft) / 15m(49.21ft) / 51m	5m(16.40ft) (iFoV: 1.308 mRad) / 11m(36.09ft)
Video Output	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation
Analytics	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection
Alarm I/O	Input 1ea / Output 2ea	Input 1ea / Output 2ea
Audio I/O	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
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, whole FoV area
Additional	–	Hybrid palettes, Spot temperature reading
WiseStream	Manual(5ea area), WiseStream II	Manual(5ea area), WiseStream II
Streaming	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 1slot 256GB
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) **Hanwha Vision** Open Platform	ONVIF Profile S/G/T, SUNAPI(HTTP API) Wisenet open platform
Memory	1024MB RAM, 256MB Flash	1024MB RAM, 256MB Flash
Operating Temperature/ Humidity	–40°C ~ +60°C (–40°F ~ +140°F) / Less than 90% RH	–40°C ~ +60°C (–40°F ~ +140°F) / Less than 90% RH
Certification	IP66, IK10, NEMA4X	IP66, IK10, NEMA4X
Power Consumption	PoE: Max. 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
Dimensions (WxHxD) / Weight	Φ147.51x375.3mm(5.80x14.77″) / 2512g(5.54lb) Φ147.51x375.3mm(58.07x147.76″) / 2512g(5.538lb) Φ147.51x375.3mm(58.07x147.76″) / 2512g(5.538lb) Φ147.51x375.3mm(5.81x14.78″) / 2495g (5.50lb) Φ147.51x401.3mm(5.81x15.79″) / 2742g(6.05lb)	Φ101.97x401.8mm(4.01x15.82″) / 3,124g(6.89lb) Φ101.97x401.8mm(4.01x15.82″) / 3,175g(7.01lb)

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

	TNO-4030T/4040T/4050T VGA Thermal Bullet Camera (Low framerate available)	TNO-4041T/4051T VGA Thermal Bullet Camera	TNO-4041TR VGA NW Thermal Radiometric Camera
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14μm)	Uncooled microbolometer	Uncooled micro bolometer
Resolution	640x480(original), 640x360, 320x240	640 x 480	640 x 480
Max. Frame Rate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)	30fps	30fps
NETD	<50mK	<50mK	<50mK
Pixel Pitch	17μm	17μm	17μm
Focal Length	13mm / 19mm / 35mm fixed focal	19mm / 25mm fixed focal	19mm fixed focal
Angular Field of View	H: 48.6° / V: 36.4° / D: 61.6° (iFoV: 1.308 mRad) H: 32° / V: 24.3° / D: 39.2° (iFoV: 0.895 mRad) H: 17.2° / V: 13° / D: 22° (iFoV: 0.47 mRad)	H: 32° / V: 24.3° / D: 39.2° H: 17.2° / V: 13° / D: 22°	H: 32° / V: 24.3 ° / D: 39.2 °
Min. Object Distance	5m(16.40ft) / 11m(36.09ft) / 36m(118.11ft)	11m (36.09ft) / 36m (118.11ft)	11m (36.09ft)
Video Output	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation
Analytics	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature direction, Sound classification, Shock detection	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature direction, Sound classification, Shock detection	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature direction, Sound classification, Shock detection
Alarm I/O	Input 1ea / Output 2ea	Input 1ea / Output 2ea	Input 1ea / Output 2ea
Audio I/O	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms	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) Supply voltage: 2.5VDC (4mA), Input impedance: 2K Ohm. Line out, Max.output level: 1Vrms
Temperature Detect Range	–	–	-20 °C~130 °C (-4 °F~266 °F)
Temperature Accuracy	–	–	±5 °C(≤100 °C), ±20%(>100 °C)
Temperature Detection	–	–	3ea rectangular
WiseStream	Manual(5ea area), WiseStream II	WiseStreamII	Manual (5ea area), WiseStream II
Streaming	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)	–	–
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	SD/SDHC/SDXC (up to 256GB) – Motion images recorded in the SD/SDHC/SDXC memory card can be downloaded, NAS (Network Attached Storage), Local PC for instant recording	Micro SD/SDHC/SDXC 1slot 256GB
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Hanwha Vision Open Platform	ONVIF Profile S/G, SUNAPI (HTTP API), Wisenet Open Platform	ONVIF Profile S/G/T SUNAPI (HTTP API) Wisenet open platform
Memory	1024MB RAM, 256MB Flash	–	1024MB RAM, 256MB Flash
Operating Temperature/ Humidity	-40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH	-40° C ~+60° C (-40° F ~+140° F) / Less than 90% RH	-40° C ~+60° C (-40° F ~+140° F) / Less than 90% RH
Certification	IP66, IK10, NEMA4X	–	IP66, IK10, NEMA4X
Power Consumption	PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W	Max. 10.5W (24V AC), Max., 9W (12V DC), Max. 10W (PoE) Typical 8.9W (24V AC), Typical 7.5W (12V DC), Typical 8.6W (PoE)	PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W
Dimensions (WxHxD) / Weight	Φ101.97x401.8mm(4.01x15.82")/3124g(6.89 lb) Φ101.97x401.8mm(4.01x15.82")/3175g(7.01 lb) Φ101.97x401.8mm(4.01x15.82")/3175g(7.01 lb)	Φ101.97 x 309mm (Φ4.01" x 12.17")/2,452g (5.41 lb)	Φ101.97x309mm (4.01x12.17"")/2,452g (5.41lb)

	TNV-7011RC 3MP Corner Mount Camera	TNV-8011C 5MP Corner Mount Camera	TNO-6322ER 2MP Explosion-proof IR Camera
Imaging Device	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution / Max. Frame Rate	3MP / 30fps	5MP / 30fps	2MP / 60fps
Min. Illumination	Colour: 0.3 lux (F2.0, 1/30sec) B/W: 0 lux (F2.0, 1/30sec)	Colour: 0.1 lux (F2.3, 1/30sec) B/W: 0.02 lux (F2.3, 1/30sec)	Colour: 0.05Lux(F1.6, 1/30sec) BW: 0.005Lux(F1.6, 1/30sec), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p	CVBS: 1.0 Vp-p, Micro USB Type B	–
Focal Length (Zoom Ratio)	2.8mm fixed focal	2.3mm fixed focal	4.44~142.6mm(32x) zoom
Angular Field of View	H: 102° / V: 75° / D: 129°	H: 131° / V: 93.4° / D: 174°	H: 61.8"(Wide)~2.19"(Tele) / V: 36.2"(Wide)~1.24"(Tele)
Pan / Tilt / Rotate Range	~ / 30°~60° / ~	–	–
IR Viewable Length	10m(32.8ft)	–	70m (229.66ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	120dB	120dB	120dB
Digital Noise Reduction	SSNR V	SSNR	SSNR V
Digital Image Stabilization	Support	Support	Support
Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter/Exit, Appear/Disappear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Shock detection	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection	Defocus detection, Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection"
Business Intelligence	–	–	–
Alarm I/O	1 / 1	1 / 1	Input 1ea / Output 1ea
Audio I/O	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) / Line out	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm Line out, Max.output level: 1Vrms
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265/H.264: Main/Baseline/High, MJPEG
WiseStream	WiseStream II	WiseStream II	Manual(5ea area), WiseStream II
Streaming	Up to 10 profiles	Up to 3 profiles	Unicast(20 users) / Multicast, Multiple streaming(Up to 10 profiles)
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB	Micro SD/SDHC/SDXC 1slot 128GB	–
Application Programming Interface	SUNAPI(HTTP API) Hanwha Vision Open Platform	SUNAPI(HTTP API) 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) / Less than 90% RH	-10°C~+55°C(+14°F~+131°F) / Less than 95% RH	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	IP66, IP6K9K, IK10+	IP66, IP6K9K, IK10	IECEx, ATEX, KCs, KC, CE IP67, IK10, PESO certified
Power Consumption	PoE: Max 12W, typical 10.1W, 12VDC: Max. 11W, typical 8.6W	PoE: Max 6.49W, typical 4.6W,	24VAC: Max. 45W
Product Dimensions / Weight	Ø295.5x113.5mm(11.6x4.47") / 2.1kg (4.63lb)	170(W)x165(H)x78.8(D)mm(6.69x6.49x3.10") / 830g(1.83lb)	175(W)x242.5(H)x320(D)mm(6.89x9.59x12.59"), 11.5kg(25.35lb)
Additional Features	Ø295.5x113.5mm(11.6x4.47") / 2.1kg (4.63lb)	170(W)x165(H)x78.8(D)mm(6.69x6.49x3.10") / 830g(1.83lb)	Stainless(SUS316L) housing, Built in wiper

	TID-600R 2MP Intercom
Imaging Device	1/2.8" CMOS
Resolution / Max. Frame Rate	1920x1080 / 60fps
Focal Length (Zoom Ratio)	1.6mm fixed focal
Angular Field of View	H: 180 / V: 114 / D: 180
Wide Dynamic Range	150dB
Analytics	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Shock detection, Sound classification
Audio Streaming	Two-way/one-way selectable, Full duplex, Echo cancellation and noise reduction
Audio-In	Built-in mic
Certification	IP65, IK08, NEMA4X, Safety(UL), EMC(FCC, CE)

	TNB-6030 Public View Monitor Camera
Imaging Device	1/2.8" 2M CMOS
Resolution / Max. Frame Rate	1920 x 1080 / 60fps
Focal Length (Zoom Ratio)	4.6mm
Angular Field of View	H: 73.8 ° / V: 39.6 ° / D: 86.8 °
Wide Dynamic Range	150dB
Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Digital auto tracking
Audio Streaming	Multiple streaming (Up to 10 Profiles)
Audio-In	Built-in mic
Certification	IP65, IK08, NEMA4X, Safety(UL), EMC(FCC, CE)

FEATURED PRODUCT

	TNS-9040IBC Barcode Reader Camera Dual-sensor for barcode reading and video monitoring	TNS-9050IBC Barcode Reader Camera Dual-sensor for barcode reading and video monitoring	TNS-9060IBC Barcode Reader Camera Dual-sensor for barcode reading and video monitoring
Imaging Device		Global Shutter Mono 1˝ CMOS: Global Shutter color 1˝ CMOS	
Resolution / Max Frame Rate		Mono: 4096x2160 / 20fps: Color: 4096x2160 / 20fps	
Max. Aperture Ratio	˝Mono: F8.0 Color: F8.0˝	˝Mono: F2.8~F16.0 Color: F2.8~F16.0˝	˝Mono: F8.0 Color: F8.0˝
Focal Length (Zoom Ratio)	16mm	25mm	35mm
Angular Field of View	˝Mono: H47.5˚ / V26.9˚ / D53.2˚ Color: H47.5˚ / V26.9˚ / D53.2˚ ˝	˝Mono: H30.4˚ / V16.6˚ / D34.2˚ Color: H30.4˚ / V16.6˚ / D34.2˚ ˝	˝Mono: H21.5˚ / V11.5˚ / D24.2˚ Color: H21.5˚ / V11.5˚ / D24.2˚ ˝
Min. Object Distance	0.15m (0.49ft)	0.15m (0.49ft)	0.2m (0.66ft)
Light Type	White LED 32ea	White LED 32ea	White LED 48ea
Day & Night		IP67, IP66, IK10(Exclude Window), NAME 4X	
Digital Noise Reduction		SSNR V	
Analytics		˝Barcode recognition - Barcode type: 1D Code, Code128 / CODE39 / CODE93 / Codabar / ITF(Interleaved 2 of 5) / UPC / EAN˝	
Video Compression		H.265/H.264: Main/High, MJPEG	
Streaming		˝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˝	
Secure Storage		HTPM (Hanwha Trusted Platform Module)	
˝Application Programming Interface˝		˝SUNAPI(HTTP API) Wisenet Open Platform˝	
˝Operating Temperature / Humidity˝		˝-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˝	
Power Consumption	˝Max 28.6W, Typical 13.7W * Max: LED On Typical: LED Off˝	˝Max 28.6W, Typical 13.7W * Max: LED On Typical: LED Off˝	˝Max 35.4W, Typical 13.7W * Max: LED On Typical: LED Off˝
˝Product Dimensions / Weight˝		˝Camera: 218x104.1x127.1mm, 1897g LED: 255.8x73.8x49.8mm, 996g Total: 255.8x181x127.1mm, 3438g(with install bracket)˝	

Hanwha Vision
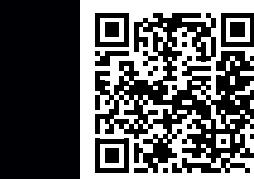
Barcode Reader Camera
Your single-device logistics solution

TNS-9040IBC | TNS-9050IBC | TNS-9060IBC

- Real-time barcode recognition and colour video in a single device
- Improves inventory management, traceability and incident investigation
- 4K resolution and global shutter for clear, distortion-free images
- Leverages AI to accurately read and track multiple barcodes
- 16, 25 or 35mm lens, suitable for all logistics environments
- Built for industrials - IP66/67 and IK10 ratings, M12 connections

High performance NVR

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

Hanwha Vision's NVR allows recording and streaming of videos in high resolution and enhances efficiency of event and channel management. It also offers AI-based object detection and classification in addition to smart search.

Monitor sub channels without registering them all

With the Virtual Channel View, user can register only one main channel for recording, and monitor sub channels without registering them to the NVR.

Registered channel
Recording and monitoring

CAMERA A
Channel #01

Using one 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

	PRN-6405DB4 64CH AI NVR	PRN-6405B4 64CH AI NVR	PRN-3205B4 32CH AI NVR	PRN-3205B2 32CH AI NVR	PRN-1605B2 16CH AI NVR
OS	Linux	Linux	Linux	Linux	Linux
Supported Compression	H.265, H.264, MJPEG				
Max. Recording Bit Rate	Distributed mode : Up to 400 Mbps / Normal mode : Up to 150 Mbps (RAID mode) / Normal : Up to 400 Mbps / Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps / Normal mode : Up to 150 Mbps (RAID mode) / Normal : Up to 400 Mbps / Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps / Normal mode : Up to 150 Mbps (RAID mode) / Normal : Up to 400 Mbps / Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps / Normal mode : Up to 150 Mbps (RAID mode) / Normal : Up to 400 Mbps / Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 250 Mbps / Normal mode : Up to 150 Mbps / RAID mode : Up to 250 Mbps
Max # of Cameras	Max. 64CH	Max. 64CH	Max. 32CH	Max. 32CH	Max. 16CH
Network Camera Resolution	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF
HDD Slot	SATA 16ea(Max. 160TB, Non-RAID mode), Hot swap	SATA 16ea(Max. 160TB, Non-RAID mode), Hot swap	SATA 16ea(Max. 160TB, Non-RAID mode), Hot swap	SATA 8ea(Max. 80TB, Non-RAID mode)	SATA 8ea(Max. 80TB, Non-RAID mode)
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), Bookmark	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	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, FTP, SUNAPI Command, Shutdown	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 HDD x 2 Array)	RAID-5/6(Array Size : 8 HDD x 2 Array)	RAID-5/6(Array Size : 8 HDD x 2 Array)	RAID-5/6(Single, 1 Array)	RAID-5/6(Single, 1 Array)
Hot Swap	Support				
Network Viewer Software	SSM, Webviewer, WAVE, Wisenet Viewer, Wisenet, mobile Support CGI(SUNAPI) for integration to 3rd party VMS				
Local Monitor	– Dynamic layout, Virtual channel view – Clone Mode : Up to 64 Division – Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	– Dynamic layout, Virtual channel view – Clone Mode : Up to 64 Division – Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	– Dynamic layout, Virtual channel view – Clone Mode : Up to 36 Division – Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	– Dynamic layout, Virtual channel view – Clone Mode : Up to 36 Division – Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	– Dynamic layout, Virtual channel view – Clone Mode : Up to 16 Division – Expand Mode : HDMI1 up to 16 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9
Network Camera Protocol	Wisenet, ONVIF	Wisenet, ONVIF	Wisenet, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Power Input	100~240 VAC ± 10%: 50/60 Hz (Dual SMPS)	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz, 2.1 A	100~240 VAC ± 10%: 50/60 Hz, 2.1 A
Power Consumption	Max. 285W (972.5 BTU with HDD 16ea)	Max. 285W (972.5 BTU with HDD 16ea)	Max. 285W (972.5 BTU with HDD 16ea)	SUNAPI, ONVIF	Max. 205W (With 10TB HDDs 8EA)
PoE Budget	–	–	–	–	–
Additional Features	–				

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	XRN-6420DB4/B4 64CH NVR	XRN-6410DB4/6410B4 64CH NVR	XRN-6410RB2 64CH NVR	XRN-6410B2 64CH NVR
OS	Linux	Linux	Linux	Linux
Supported Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Max. Recording Bit Rate	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 400 Mbps Normal mode : Up to 150 Mbps (RAID mode) Normal : Up to 400 Mbps Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps Normal mode : Up to 150 Mbps (RAID mode) Normal : Up to 400 Mbps Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps Normal mode : Up to 150 Mbps
Max of Cameras	Max. 64CH	Max. 64CH	Max. 64CH	Max. 64CH
Network Camera Resolution	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF
HDD Slot	SATA 16ea(Max. 160TB, Non-RAID mode), Hot swap	SATA 16ea(Max. 160TB, Non-RAID mode), Hot swap	SATA 8ea(Max. 80TB, Non-RAID mode), Hot swap	SATA 8ea(Max. 80TB)
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	RAID-5/6	RAID-5/6	–
Hot Swap	Support	Support	Support	–
Network Viewer Software	SSM, Webviewer, Wave, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI) for integration to 3rd party VMS			
Local Monitor	– Dynamic layout, Virtual channel view – Clone Mode : Up to 64 Division – Expand Mode : HDMI1 up to 36 Div. HDMI2 up to 32 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9			
Network Camera Protocol	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Power Input	100 ~ 240 VAC ± 10%: 50/60 Hz, 2.7A (Dual SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 2.7A (Dual SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 1.7A (Single SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 1.5A (Single SMPS)
Power Consumption	Max. 265W (904.2 BTU with HDD 16ea)	Max. 265W (904.2 BTU with HDD 16ea)	Max. 160W (with 10TB HDD 8EA)	Max. 138W (with 10TB HDD 8EA)
PoE Budget	–	–	–	–
Additional Features	• N+1 failover supported • AI search (BestShot, Attribute) – When integrated with Hanwha Vision AI cameras • PTZ camera configuration and control • Dual SMPS (6410DB4) • Dynamic layout • Virtual channel view • Fisheye dewarping	• N+1 failover supported • AI search (BestShot, Attribute) – When integrated with Hanwha Vision AI cameras • PTZ camera configuration and control • Dual SMPS (6410DB4) • Dynamic layout • Virtual channel view • Fisheye dewarping	• N+1 failover supported • AI search (BestShot, Attribute) – When integrated with Hanwha Vision AI cameras • PTZ camera configuration and control • Dynamic layout • Virtual channel view • Fisheye dewarping	

	XRN-3220B4 32CH NVR	XRN-3210B4 32CH NVR	XRN-3210RB2 32CH NVR	XRN-3210B2 32CH NVR
OS	Linux	Linux	Linux	Linux
Supported Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Max. Recording Bit Rate	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 400 Mbps Normal mode : Up to 150 Mbps (RAID mode) Normal : Up to 400 Mbps Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps Normal mode : Up to 150 Mbps (RAID mode) Normal : Up to 400 Mbps Degrade/ Rebuild : Up to 320 Mbps	Distributed mode : Up to 400 Mbps Normal mode : Up to 150 Mbps
Max of Cameras	Max. 32CH	Max. 32CH	Max. 32CH	Max. 32CH
Network Camera Resolution	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF	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)
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, 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, 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, FTP, SUNAPI Command, Shutdown
External Storage	iSCSI			
RAID	RAID-5/6	RAID-5/6	RAID-5/6	–
Hot Swap	Support			
Network Viewer Software	SSM, Webviewer, WAVE, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI) for integration to 3rd party VMS			
Local Monitor	Dynamic layout, Virtual channel view Clone Mode : Up to 32 Division Expand Mode : HDMI1 up to 32 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	Dynamic layout, Virtual channel view Clone Mode : Up to 64 Division Expand Mode : HDMI1 up to 32 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	Dynamic layout, Virtual channel view Clone Mode : Up to 64 Division Expand Mode : HDMI1 up to 32 Div. HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9/ 13/ 16/ 25/ 36/ Sequence [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9
Network Camera Protocol	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Power Input	100 ~ 240 VAC ± 10%: 50/60 Hz, 2.7A (Single SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 2.7A (Single SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 1.7A (Single SMPS)	100 ~ 240 VAC ± 10%: 50/60 Hz, 1.5A (Single SMPS)
Power Consumption	Max. 265W (904.2 BTU with HDD 16ea)	Max. 265W (904.2 BTU with HDD 16ea)	Max. 160W (with 10TB HDD 8EA)	Max. 138W (with 10TB HDD 8EA)
PoE Budget	–	–	–	–
Additional Features	• N+1 failover supported • AI search (BestShot, Attribute) – When integrated with Hanwha Vision AI cameras • PTZ camera configuration and control • Dynamic layout • Virtual channel view • Fisheye dewarping			

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	XRN-1620SB1 16CH NVR	XRN-1620B2 16CH NVR	XRN-820S 8CH NVR	XRN-815S 8CH NVR	XRN-420S 4CH NVR
OS	Linux	Linux	Linux	Linux	Linux
Supported Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Max. Recording Bit Rate	Max. 140Mbps	Max. 140Mbps	Max. 120Mbps	Max. 100Mbps	Max. 50Mbps
Max # of Cameras	Max. 16CH	Max. 16CH	Max. 8CH	Max. 8CH	Max. 4CH
Network Camera Resolution	32MP ~ CIF	32MP ~ CIF	32MP ~ CIF	12MP ~ CIF	8MP ~ CIF
HDD Slot	SATA 4ea(Max. 24TB)	SATA 8ea(Max. 80TB)	SATA 2ea(Max. 12TB)	SATA 2ea(Max. 20TB)	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				
Event Action	e-Mail, Event Push, PTZ Preset, Alarm Out, Buzzer, Monitor Out, FTP, SUNAPI Command, Shutdown				
External Storage	–	–	–	–	–
RAID	RAID-1	–	RAID-1	–	–
Hot Swap	–	–	–	–	–
Network Viewer Software	WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet Viewer, Wisenet mobile, Support CGI(SUNAPI) for integration to 3`rd party VMS				
Local Monitor	Dynamic layout, Virtual channel view / Clone mode : Up to 16 Division / Expand mode : Up to 9 Division[Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9			Clone Mode : Dynamic layout, Expand Mode : HDMI1 Dynamic layout, HDMI2 up to 9 Div., [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	1/ 2V/ 2H/ 3V/ 4/ Sequence [Web] 1/ 2V/ 2H/ 3V/ 4
Network Camera Protocol	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Power Input	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz	100~240 VAC ± 10%: 50/60 Hz
Power Consumption	Max. 310W	130W	Max 160W	Max 165W (563 BTU with 2HDD, PoE On)	Max 67W(1HDD, PoE On)
PoE Budget	200W	–	100W	100W	50W
Additional Features	• PoE supported • N+1 failover supported • AI search (BestShot, Attribute) – When integrated with Hanwha Vision AI cameras • PTZ camera configuration and control				

FEATURED PRODUCT

	AIB-800 8CH AI BOX	XRN-426S-1T 4CH AI NVR	QRN-1630S 16CH NVR	QRN-830S 8CH NVR	QRN-430S 4CH NVR
OS	Windows 11/10, macOS 10.13	Linux	Linux	Linux	Linux
Supported Compression	–	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Max. Recording Bit Rate	–	Max. 40Mbps	Max. 128Mbps	Max. 80Mbps	Max. 40Mbps
Max of Cameras	Max. 8CH	Max. 4CH	Max. 16CH	Max. 8CH	Max. 4CH
Network Camera Resolution	CIF ~ 32MP	8MP ~ CIF	8MP ~ CIF	8MP ~ CIF	8MP ~ CIF
HDD Slot	–	1TB SSD included	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	**Pre-installed Event:** 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) * 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	AI Search: Object Attribute (When integrated with Hanwha Vision AI Cameras)	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	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	Web Viewer, WAVE, SSM, Genetec, Milestone	WAVE, SSM, Webviewer, Wisenet Viewer, Wisenet mobile Support CGI(SUNAPI) for integration to 3rd party VMS			
Local Monitor	–	Dynamic layout, Virtual channel view, Up to 4 Div. [Web] 1/ 2H/ 2V/ 3V/ 4	Clone Mode : Dynamic layout Expand Mode : HDMI1 Dynamic layout, HDMI2 up to 16 Div. [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	Dynamic layout [Web] 1/ 2H/ 2V/ 3V/ 4/ 6/ 8/ 9	1/ 2V/ 2H/ 3V/ 4/ Sequence [Web] 1/ 2V/ 2H/ 3V/ 4
Network Camera Protocol	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Power Input	100~240 VAC ± 10%: 50/60 Hz, 12V, 4A Adaptor	54VDC/1.67A	100~240 VAC ± 10%: 50/60 Hz	54VDC / 1.55A	100~240 VAC ± 10%: 50/60 Hz
Power Consumption	28W	Max 68W(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	–	50W	130W	65W	35W
Additional Features	–	–	• PoE supported • N+1 failover supported • ARB (Auto Recovery Backup) redundancy supported • PTZ camera configuration and control • Easy configuration (Setup Wizard, P2P (QR Code))		

Wisenet Viewer
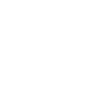
Powerful NVR·DVR Management Software

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
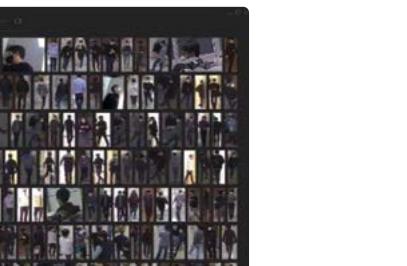
Customisable channel layout & Timeline
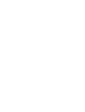
Easy monitoring with
Fisheye Dewarping

View Mode
① Single View
② Panoramic
③ Quad View

Intelligent monitoring powered by **AI Search**

Seagate Hard Drives

	Skyhawk		Exos
Standard Model Numbers with SRS	4TB 6TB 8TB 10TB	Standard Model Numbers with SRS	4TB 6TB 8TB 10TB 12TB 14TB
SkyHawk™ Health Management Included	ST4000VX016 ST6000VX009 ST8000VX010 ST10000VE001	SkyHawk™ Health Management Included	ST4000NM000B ST6000NM000B ST8000NM019B ST10000NM017BST 12000NM001J ST14000NM001J
Recording Technology	SATA 6 Gb/s	Average Latency (ms)	4.16
Drive Design	CMR	SuperParity	Yes
Features and Performance	Air	Low Halogen	Yes
Drive Bays Supported	Up to 16	PowerChoice™ Technology	Yes
RV Sensors	Yes	PowerBalance Technology	Yes
Max Sustained Transfer Rate OD (MB/s)	180MB/s	Bytes per Sector	512
Cache (MB)	256MB	Max Sustained Transfer Rate OD (MB/s)	215
Reliability/Data Integrity	600,000	Cache (MB)	256MB
Non-recoverable Read Errors Rate	Max 1 per 10E14	Advanced Write Caching (8M internal NOR flash)	Yes
Power-On Hours per year	8,760	Vibration, Non-operating: 10 Hz to 500 Hz (Grms) 5	5
Workload Rate Limit (WRL)	1180	Reliability Rating @ Full 24 × 7 Operation (AFR)	0.44%
Mean Time Between Failures (MTBF) (hours)	1000000 hr	Non-recoverable Read Errors per Bits Read	1 sector per 10E15
Rescue Data Recovery Services	3 years	Mean Time Between Failures (MTBF) (hours)	2000 000hr
Average Operating Power (W)	5.3 W	Warranty, Limited	5 years
Idling Average (W)	3.4 W	Power-On Hours per Year	8760
Operating (drive reported, max ° C)	65° C	Temperature, Operating (° C) Drive Reported	5 to 60
Non-operating (ambient, min ° C)	-40°	Shock, Operating 2 ms Read/ Write (Gs)	70/40 Gs
		Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300
Height	26 mm	Height	26 mm
Width	102 mm	Width	102 mm
Depth	147 mm	Depth	147 mm
Weight	630 g	Weight	630 g

Encoder

	SPE-1630 16CH Encoder	SPE-420 4CH Encoder
Max. # of Cameras	16	4
Supported Compression	H.265 / H.264, MJPEG	H.265 / H.264, MJPEG
Max. Resolution	5MP/4MP/1080p/720p/WD1/4CIF/CIF	5MP/4MP/1080p/720p/WD1/4CIF/CIF
Max. Frame Rate per Channel	5MP : 12fps/CH, 4MP : 15fps/CH, 1080p/720p/WD1/4CIF/CIF : 30fps/CH(N), 25fps/CH(P)	5MP : 12fps/CH, 4MP : 15fps/CH, 1080p/720p/WD1/4CIF/CIF : 30fps/CH(N), 25fps/CH(P)
Bi-Directional Audio	Support	Support
RS-485	Support	Support
Alarm I/O	4 / 1	4 / 2
Application Programming Interface	ONVIF profile S, SUNAPI	ONVIF profile S, SUNAPI
Power	MAX : 20W (12V, 1.67A)	MAX : 5W (PoE & 12VDC)

Decoder

	SPD-152 1 Monitor Decoder
Video Out	HDMI (2ea)
Resolution	HDMI#1 up to 4K, HDMI#2 up to 1080p
Display	Max. 64ch decoding Decoding performance : 8M@60fps, 2M@360fps
Power	Dual Power : 12VDC, PoE (IEEE802.3af)
Additional Features	Multi adapter for monitor back mount (VESA)

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Smart Network Interface (SNI)

	SNI-1MC-PS	SNI-1PI-PS	SNI-1MC	SNI-1PI
	Smart Network Interface (SNI)			
Operating Temp	−40 to +75°C / −40 to +167°F	−40 to +75°C / −40 to +167°F	−40 to +75°C / −40 to +167°F	−40 to +75°C / −40 to +167°F
Storage Temp	−40 to +85°C / −40 to +185°F	−40 to +85°C / −40 to +185°F	−40 to +85°C / −40 to +185°F	−40 to +85°C / −40 to +185°F
RJ45 Ports	1x 10/100/1000T(X) RJ45 with Auto MDI/MDI-X and 2 kV Isolation Protection	2x 10/100/1000T(X) RJ45 with 2 kV Isolation Protection	1x 10/100/1000T(X) RJ45 with Auto MDI/MDI-X and 2 kV Isolation Protection	2x 10/100/1000T(X) RJ45 with 2 kV Isolation Protection
SFP Module	SNI-SFP-CU; SNI-SFP-MM; SNI-SFP-SM	−	SNI-SFP-CU; SNI-SFP-MM; SNI-SFP-SM	−
SFP Slot	1x 100/1000FX SFP	−	1x 100/1000FX SFP	−
Mains Power	1x 3-Way Screw Terminal	1x IEC C14 Socket with locking security bracket	1x 2-way Screw Terminal	1x 4-way Screw Terminal
Switch	1x 4 Position DIP Switch	−	1x 4 Position DIP Switch	−
Switch Functions	Link Fault Pass-Through Mode Remote Reset Mode Extended Distance Mode	−	Link Fault Pass-Through Mode Remote Reset Mode Extended Distance Mode	−
Housing Dimensions	Anodised Aluminium Anodised Aluminium 38 x 110 x 84 mm	Anodised Aluminium 65 x 88 x 107 mm	Anodised Aluminium 31 x 57 x 57 mm	Anodised Aluminium 37 x 88 x 107 mm
Installation	Wall Mount or DIN-Rail Optional Magnetic Mounts	Wall Mount or DIN-Rail	Wall Mount or DIN-Rail Optional Magnetic Mounts	Wall Mount or DIN-Rail
IP Rating	IP40			
Input Voltage	85-264VAC / 120-370VDC	85-264VAC / 120-370VDC	−	−
Integrated PSU Type	54VDC @ 90W	54VDC @ 90W	−	−
Protection	Overload Current	Overload Current	Reverse Polarity, Overload Current	Reverse Polarity, Overload Current

Wisenet Wave

Video Management System

Intuitive and easy to use

• An intuitive 'drag & drop' tool makes it easy for operators to set a display of live and recorded images on a single screen or video wall, with customisable layouts and sizes.
• Zoom windows enable 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 incidents occur.
• A wide range of smart, keyword, calendar and preview search options facilitate rapid retrieval of recorded video.

An operating system to suit your needs

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

WAVE Sync	Desktop	Mobile	Server
A cloud-based service that enables simple, centralised remote access and insight into any Wisenet WAVE system.	A rich media player designed to view and manage a single Wisenet WAVE system from a desktop or laptop PC.	A mobile app designed for viewing Wisenet WAVE system video and archives while on-the-go.	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

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

Setup in Seconds

Step 1: Create Wisenet WAVE Sync Account
Step 2: Link your System to Wisenet WAVE Sync
Step 3: Connect, view and manage from anywhere

Wisenet SSM

Ideal choice for integrated monitoring

Wisenet SSM (Smart Security Manager) is a video monitoring software that maximises the operational efficiency of Hanwha Vision products (Network camera, Encoder, DVR and NVR). It provides seamless system integration and central monitoring.

Cost Competitiveness	High reliability	Convenient Operation
Impressive features that are cost-effective	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	Leverage features to improve operations
High quality VMS features	Dashboard that can monitor device status	Highly versatile for different environments
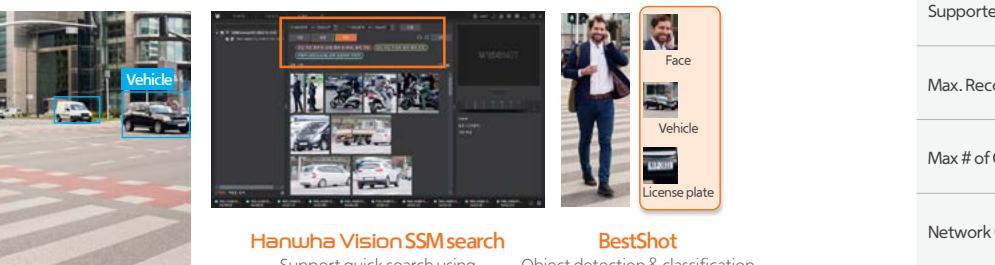
AI video search

Connect **Hanwha Vision** AI cameras to SSM.

Best Shot search

System operators can utilise SSM's AI video search feature to easily search specific events in the video by designating distinctive attributes of objects such as faces and vehicles. If a user searches specific attributes such as "red motorcycle" or "man wearing shorts", the best still cuts of the classified objects in the video will be retrieved. BestShot can be used as forensic data for accident investigations, playing back video that includes the images.

Hanwha Vision SSM search
Support quick search using attributes

BestShot
Object detection & classification (Person, face, vehicle, licence plate)
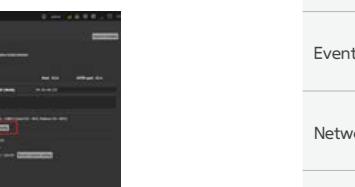
Stable monitoring

SSM provides safe and stable monitoring environment through Failover.

Vehicle management & event search

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

	WRN-2010S	WRN-2110B1	WRN-2110SB1
	Edge Wave NVR		
OS	Ubuntu 22.04 LTS		
Supported Compression	H.265, H.264, MJPEG		
Max. Recording Bit Rate	Max. 150Mbps	Max. 250Mbps	Max. 250Mbps
Max # of Cameras	Max. 16CH	Max. 36CH	Max. 36CH
Network Camera Resolution	12MP ~ CIF		
HDD Slot	SATA 2ea (Max. 20TB)	SATA 4ea (Max. 40TB)	SATA 4ea (Max. 40TB)
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
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, User Event	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	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
Network Viewer Software	Supported by Wave client, mobile and Cloud Sync	Supported by Wave client, mobile and Cloud Sync	Supported by Wave client, mobile and Cloud Sync
Local Monitor	Yes (set-up only)		
Network Camera Protocol	SUNAPI, ONVIF, RTSP		
Power Input	100 ~ 240 VAC ± 10%: 50/60 Hz		
Power Consumption	170W	80W	340W
PoE Budget	8 PoE/PoE+ ports, with a total power budget of 100W	N/A	16 PoE/PoE+ ports, with a total power budget of 200W

NETWORK

ANALOG

PERIPHERAL

INSTALLATION SOLUTION

Wisenet Access Control System

Access control meets video surveillance

- Integrates with video surveillance to enhance security
- Easily manage door access, reset forced doors, and change system relay
- Access control and intercom available via WAVE VMS
- Tiered licensing, ideal for all needs
- Flexible system with mobile viewing options

View the range

www.hanwhavision.eu

VISION BANK

James, Hopper
President

JOIN : MM/DD/YEAR
EXPIRED : MM/DD/YEAR

Intercom TID-600R WAVE WAVE Mobile Monitoring
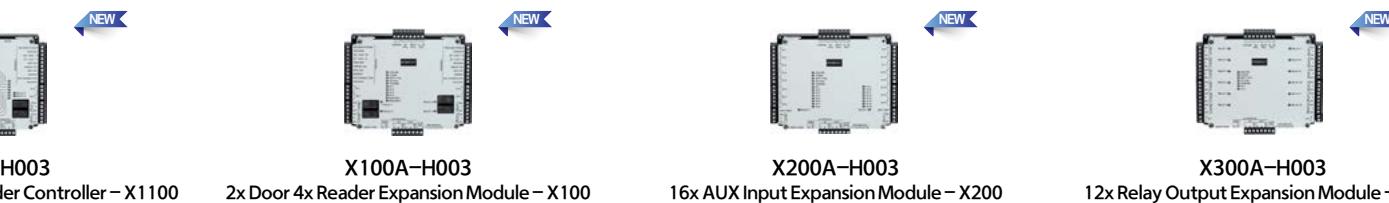
FEATURED PRODUCT

Functions		
License options NEW	Wisenet Access Control Software Lite version, 6 doors Wisenet Access Control Software Standard, **SSA-M3000**, 32* doors	Wisenet Access Control Software Professional, **SSA-M4000**, 256* doors Wisenet Access Control Software Enterprise, **SSA-M5000**, unlimited doors	*first 6 doors included in the license
Access Control	Device Auto Discovery, Cardholder Management, Batch Uploads Card(s) pre-registration, Lift Control, Two-card access, Device Maintenance	Unlimited/ Multiple Access Groups, Time Schedules, Interlocking, Area/Zone Management, Biometric Readers, Visitor Management, Anti Passback, I/O, Guard Tour	
Monitoring	Real time access events and 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, Fargo printer support		
Fire Input	Operator pop-up notification on alarm		
Advanced Reporting	Extensive reporting options, Export to multiple formats (printer, csv supported in excel and pdf)		
Video Integration with Wisenet WAVE, SSM	Seamless Integration with Hanwha Vision's VMS in event monitoring, Review video of the access and alarm events, Real-time access and alarm events notification to Wisenet WAVE, SSM		
Maintenance	User Group and User Privileges, Manual and Scheduled database backup, Database Backup/ Restore Cardholder Data Export and Import, 128x Custom Fields, Auditing and User Activity Logs		
System	Max 1400 doors per gateway, unlimited gateway, Very simple and intuitive user interface, Highly Scalable		

	X1100A-H003 Intelligent 2x Door 4x Reader Controller – X1100	X100A-H003 2x Door 4x Reader Expansion Module – X100	X200A-H003 16x AUX Input Expansion Module – X200	X300A-H003 12x Relay Output Expansion Module – X300
Total ID Users	250,000	–	–	–
Event Buffers	50,000	–	–	–
Reader Port	2x 10-PIN (supporting 2x Wiegand or 4x OSDP readers)	2x 10-PIN (supporting 2x Wiegand or 4x OSDP readers)	–	–
Input Port	7x supervised (Tamper, AC Fail, Battery fail & 2x Door Lock and 2x AUX)	7x supervised (Tamper, AC Fail, Battery fail & 2x Door Lock and 2x AUX)	19x supervised (Tamper, AC Fail, Battery fail & 16x AUX)	5x supervised (Tamper, AC Fail, Battery fail & 2x AUX)
Output Port	2x Lock Form-C & 2x AUX Form-C	2x Lock Form-C & 2x AUX Form-C	2x AUX Form-C	12x AUX Form-C
Output Relay Rating	Recommended 3 Amp @ 30VDC	Recommended 3 Amp @ 30VDC	Recommended 2 Amp @ 30VDC	Recommended 2 Amp @ 30VDC
Operating Voltage	12/24 VDC			
Network Port	Ethernet (10/100 BaseT)	–	–	–
RS-485 Connection	2x	1x	1x	1x
LED / Beeper	LEDs provide a status showing communications between the system, if the module is powered, if there is a battery fail, AC fail or tamper or if inputs/outputs are active			
Lift Control	Yes	–	–	Yes
I/O Board Expansion	Up to 20x X100 or X200 or X300 via RS485 Port 1 or Port 2 on the X1100			
Operating Temperature / Humidity	0°C ~ +70°C (+32°F ~ +158°F) / 5% ~ 85% Relative, non-condensing			
Dimension	164 mm x 140 mm x 26 mm			
Weight	352g	342g	326g	326g
HS-CODE	8537.10.9	8537.10.9	9030.33.3	8537.10.9

NETWORK · ANALOG · PERIPHERAL · INSTALLATION SOLUTION

Page 96

	Signo Express 20XTKK-X1-0011RW-H003	Signo 20 20TKS-01-00039R-H003	Signo 20 Keypad 20KTKS-01-00039R-H003	Signo 40 40TKS-01-00039R-H003	Signo 40 Keypad 40KTKS-01-00039R-H003
2.4 GHz (Bluetooth) Credential Compatibility	Mobile Credentials powered by Seos® (Mobile Access)	Mobile Credentials powered by Seos® (Mobile Access)			
Credential Compatibility	Signo 20 Express (13.56MHz) SEOS Reader, Wiegand, NFC/BLE 2.4GHz, Mobile & SEOS Cards	Signo 20 (13.56MHz) SEOS Reader, Wiegand, NFC/BLE 2.4GHz, Mobile & SEOS Cards			
Typical Read Range	SEOS Single Technology Cards ~ 1.6 to 4 in (4 to 10 cm)	SEOS Single Technology Cards - 1.6 to 4 in (4 to 10 cm)			
Dimensions	1.77 in x 4.78 in x 0.77 in (45 mm x 121.5 mm x 19.5 mm)	1.78 in x 4.79 in x 0.85 in (45 mm x 121.5 mm x 21.5 mm)		3.15 in x 4.78 in x 0.77 in (80 mm x 121.5 mm x 19.5 mm)	3.16 in x 4.79 in x 0.85 in (80 mm x 121.5 mm x 21.5 mm)
Product Weight	Terminal: 2.65 oz (75 g)	Terminal: 3.17 oz (90 g)		Terminal: 4.23 oz (120 g)	Terminal: 4.94 oz (140 g)
Operating Voltage	12V DC	12V DC			
Current Draw	NSC: 60 mA, Peak: 250 mA Max. Avg: 70 mA, IPM: 45 mA	NSC: 65 mA, Peak: 250 mA Max. Avg: 75 mA, IPM: 48 mA		NSC: 65 mA, Peak: 250 mA Max. Avg: 75 mA, IPM: 45 mA	NSC: 70 mA, Peak: 250 mA Max. Avg: 80 mA, IPM: 55 mA
Input	Tri-color LED, Buzzer, Hold @ Active Low				
Output	Tamper Relay 0-60V DC @ 100mA Max (Dry Contact)				
Operating Temperature	-31° F to +150° F (-35° C to +66° C)				
Humidity	0% to 95% non-condensing				
Storage Temperature	-40° F to +185° F (-40° C to +85° C)				
Environmental Rating	UL294 Outdoor and Indoor rated, IP65				
Communications & Panel Connection	Wiegand via Terminal Strip	Wiegand and RS-485 Half Duplex (OSDP) via Terminal Strip			
Device Management	HID Reader Manager / OSDP configuration				
Certifications	UL294/cUL (US), FCC (US), IC (Canada), CE (EU), RCM (Australia, New Zealand), SRRC (China), KCC (Korea), NCC (Taiwan), iDA (Singapore), RoHS, MIC (Japan), GreenCircle, Bluetooth SIG				
Security Ratings	EAL 5+* Certified Secure Element Hardware				
HS-CODE	8471.90.0000				

Page 97

	Signo 20 20TKS-00-00000P-H003	Signo 20 Keypad 20KTKS-00-00000P-H003	Signo 40 40TKS-00-00000P-H003	Signo 40 Keypad 40KTKS-00-00000P-H003
2.4 GHz (Bluetooth) Credential Compatibility	Mobile Credentials powered by Seos® (Mobile Access)			
Credential Compatibility	Signo 20 SEOS Reader, Wiegand/OSDP, NFC/BLE Mobile SEOS Credential & SEOS Cards, iCLASS, iCLASS SE/SR, MIFARE HID DESFire EV1/EV2/EV3 (SIO/CSN), MIFARE HID Classic (SIO/CSN), 125kHz HID Prox/Indala, 125kHz EM4102			
Typical Read Range	iCLASS SE®/iCLASS SEOS/HID MIFARE/HID MIFARE DESFire EV1/EV2, MIFARE Classic & ISO14443A Single Technology Cards - 1.6 to 4 in (4 to 10 cm) HID/ EM Proximity & 125 kHz Single Technology Cards - 2.4 to 4 in (6 to 10 cm)			
Dimensions	1.77 in x 4.78 in x 0.77 in (45 mm x 121.5 mm x 19.5 mm)	1.78 in x 4.79 in x 0.85 in (45 mm x 121.5 mm x 21.5 mm)	3.15 in x 4.78 in x 0.77 in (80 mm x 121.5 mm x 19.5 mm)	3.16 in x 4.79 in x 0.85 in (80 mm x 121.5 mm x 21.5 mm)
Product Weight	Terminal: 2.65 oz (75 g)	Terminal: 3.17 oz (90 g)	Terminal: 4.23 oz (120 g)	Terminal: 4.94 oz (140 g)
Operating Voltage	12V DC			
Current Draw	NSC: 60 mA, Peak: 250 mA Max. Avg: 70 mA, IPM: 45 mA	NSC: 65 mA, Peak: 250 mA Max. Avg: 75 mA, IPM: 48 mA	NSC: 65 mA, Peak: 250 mA Max. Avg: 75 mA, IPM: 45 mA	NSC: 70 mA, Peak: 250 mA Max. Avg: 80 mA, IPM: 55 mA
Input	Tri-color LED, Buzzer, Hold @ Active Low			
Output	Tamper Relay 0-60V DC @ 100mA Max (Dry Contact)			
Operating Temperature	-31° F to +150° F (-35° C to +66° C)			
Humidity	0% to 95% non-condensing			
Storage Temperature	-40° F to +185° F (-40° C to +85° C)			
Environmental Rating	UL294 Outdoor and Indoor rated, IP65			
Communications & Panel Connection	Wiegand and RS-485 Half Duplex (OSDP) via Pigtail (18 in / 0.5 m) or Terminal Strip			
Device Management	HID Reader Manager / OSDP configuration			
Certifications	UL294/cUL (US), FCC (US), IC (Canada), CE (EU), RCM (Australia, New Zealand), SRRC (China), KCC (Korea), NCC (Taiwan), iDA (Singapore), RoHS, MIC (Japan), GreenCircle, Bluetooth SIG			
Security Ratings	EAL 5+* Certified Secure Element Hardware			
HS-CODE	8471.90.0000			

IP Audio System

Amplifying your security systems
to keep areas secure and clear.

🔊 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

	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	101dB	101dB	125dB
Frequency Range (-10dB)	120Hz~20kHz	130Hz~20kHz	120Hz~20kHz	650Hz~5.3kHz
Sensitivity (1Watt)	90dB	91dB	91dB	111dB
Power		PoE/ PoE+		
TTS		Korean, English(US, UK), German, French, Spanish, Russian		

IP Audio Module

SPA-D1000
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 Bridge

SPA-B1000
IP Audio Bridge

Maximum Input Level	L, R : +6dBV Max
Power	PoE (IEEE 802.3 af type 1 Class 0), DC 24V
Supported Protocol	IPv4, HTTP, HTTPS, mDNS, DNS, NTP, TCP, UDP, DHCP, ARP, ICMP

IP Audio Server

SPA-S1000
IP Audio Server

Ethernet	100/1000 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

Mic input Level	-7dBV , Aux Input Volume Max
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)

NETWORK

ANALOG

PERIPHERAL

INSTALLATION SOLUTION
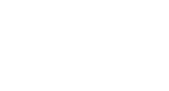
	HCB-7000A QHD Box Camera	HCO-7070RA QHD IR Bullet Camera	HCO-7010RA/20RA/30RA QHD IR Bullet Camera	HCD-7070RA QHD IR Dome Camera	HCD-7010RA/20RA/30RA QHD IR Dome Camera
Imaging Device	1/3" CMOS				
Resolution	2560 x 1440				
Min. Illumination	Colour : 0.16Lux (F1.2) B/W : 0.009Lux (F1.2)	Colour : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.26Lux (F1.8) (HCO-7010R) 0.27Lux (F2.0) (HCO-7020R/7030R) B/W : 0Lux (IR LED on)	Colour : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 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)	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)
Operating Temperature	-10℃ ~ +55℃ (+14°F ~ +131°F)	-30℃ ~ +55℃ (-22°F ~ +131°F) * Start up above -10℃ (+14°F)	-30℃ ~ +55℃ (-22°F ~ +13°F) * Start up above -10℃ (+14°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)
Certification	–	–	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)	Ø78 x 259.8mm (Ø3.07" x 10.23") (Without sunshield) 914g (2.02lb)	Ø70 x 246mm (Ø2.76" x 9.69") (Without sunshield) 670g (1.48lb)	Ø119.8 x 98.5mm (Ø4.72" x 3.88") 320g (0.71lb)	Ø110.1 x 86.1mm (Ø4.33" x 3.39") 240g (0.53lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable)				

	HCV-7070RA QHD IR Vandal Dome Camera	HCV-7010RA/20RA/30RA QHD IR Vandal Dome Camera	HCB-6001 1080p HD Box Camera	HCB-6000 1080p HD Box Camera	HCO-6080R 1080p HD IR Bullet Camera
Imaging Device	1/3" CMOS	1/3" CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
Resolution	2560 x 1440	2560 x 1440	1920 x 1080	1920 x 1080	1920 x 1080
Min. Illumination	Colour : 0.16Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.26Lux (F1.8) (HCV-7010R) 0.27Lux (F2.0) (HCV-7020R/7030R) B/W : 0Lux (IR LED on)	Colour : 0.09Lux (F1.2) B/W : 0.009Lux (F1.2)	Colour : 0.09Lux (F1.2) B/W : 0.009Lux (F1.2)	Colour : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)
Focal Length	3.2~10mm (3.1x) varifocal	2.8mm fixed (HCV-7010R) 4.0mm fixed (HCV-7020R) 6.0mm fixed (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° ~67° / 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	-30℃ ~ +55℃ (-22°F ~ +131°F) * Start up above -10℃ (+14°F)	-30℃ ~ +55℃ (-22°F ~ +131°F) * Start up above -10℃ (+14°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-10℃ ~ +55℃ (+14°F ~ +131°F)	-30℃ ~ +55℃ (-22°F ~ +131°F) * Start up above -10℃ (+14°F)
Certification	IP66, IK10	IP66, IK10	–	–	IP66, IK10
Power Consumption	12VDC & 24VAC : Max 5.8W	12VDC : Max 5W	12VDC & 24VAC : Max 6W	12VDC & 24VAC : Max 3.5W	12VDC & 24VAC : Max 5.8W
Dimensions (WxHxD) / Weight	Ø137 × 106.1mm (Ø5.39" × 4.18") 715g (1.58lb)	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.12lb)	W 130.9 × H73.1 × D 67.2mm (5.15" × 2.88" × 2.65") 287g (0.63lb)	W 68.4 × H 59.6 × D 92.7mm (2.69" × 2.35" × 3.65") 186g (0.41lb)	Ø78 x 259.8mm (Ø3.07" x 10.23") (Without sunshield) 948g (2.09lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus (HCD-6080R, HCB-6001)				

	HCO-6070R 1080p HD IR Bullet Camera	HCO-6020R 1080p HD IR Bullet Camera	HCD-6080R/6070R 1080p HD IR Dome Camera	HCD-6020R 1080p HD IR Dome Camera
Imaging Device	1/2.8″ CMOS			
Resolution	1920 x 1080			
Min. Illumination	Colour : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.17Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)	Colour : 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) motorized varifocal (HCD-6080R) varifocal (HCD-6070R)	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			
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	Ø78 x 259.8mm (Ø3.07″ x 10.23″) (Without sunshield) 914g (2.02lb)	Ø58.6 x 165.2mm (Ø2.31″ x 6.5″) (Without sunshield) 279g (0.62 lb)	Ø119.8 x 98.5mm (Ø4.72″ x 3.88″) 330g (0.73lb) (HCD-6080R) 320g (0.71lb) (HCD-6070R)	Ø110 x 86mm (Ø4.33″ x 3.39″) 227g (0.71lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial Cable), Simple Focus (HCD-6080R only)			

	HCD-6010 1080p HD Dome Camera	HCV-6080R/6070R 1080p HD IR Vandal Dome Camera
Imaging Device	1/2.8″ CMOS	
Resolution	1920 x 1080	
Min. Illumination	Colour : 0.27Lux (F2.0) B/W : 0.017 Lux (F2.0)	Colour : 0.11Lux (F1.6) B/W : 0Lux (IR LED on)
Focal Length	2.8mm fixed (F2.0)	3.2～10mm (3.1x) motorized varifocal (HCV-6080R) varifocal (HCV-6070R)
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)
Pan / Tilt / Rotate	0°～350° / 0°～67° / 0°～355°	0°～350° / 0°～67° / 0°～355°
IR Viewable Length	–	30m (98.43ft)
Day & Night	Auto (ICR)	
Backlight Compensation	WDR (120dB)	
Digital Noise Reduction	SSNRIV	
Motion detection	Support	
Privacy Masking	8 Zones	
Alarm I/O	–	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)
Operating Temperature	-10℃～+55℃ (+14℉～+131℉)	-30℃～+55℃ (-22℉～+131℉) *Start up above -10℃ (+14℉)
Certification	–	IP66, IK10
Power Consumption	12VDC : Max 3.6W	12VDC & 24VAC : Max 5.8W (HCV-6080R) 12VDC & 24VAC : Max 4.2W (HCV-6070R)
Dimensions (WxHxD) / Weight	Ø110 x 86mm (Ø4.33″ x 3.39″) 225g (0.49lb)	Ø137 x 106.1mm (Ø5.39″ x 4.18″) 725g (1.60lb) (HCV-6080R) 715g (1.58lb) (HCV-6070R)
Additional Features	Video transmisstion up to 500m (5C2V Coaxial Cable), Simple Focus (HCV-6080R only)	

	HRX-1635 16CH 8MP Pentabrid Recorder	HRX-835A 8CH 8MP Pentabrid Recorder	HRX-435 4CH 8MP Pentabrid Recorder
OS	Linux	Linux	Linux
Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	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 – 8CH(1Vp–p 75ohm, BNC) Network Camera – 2CH (Up to 10CH)	"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 4ea(Max 24TB)	SATA 2ea(Max 12TB)
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 (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	8 Line in (RCA 4 Line, Option : Audio Extension Cable) / 1 Line line out	4 Line in / 1 Line out
Alarm In/Out	In 16EA, Out 4EA – Relay Out1(NO/NC/COM) – Relay Out2~4(NO/COM)	In 8EA, Out 4EA – Relay Out1(NO/NC/COM) – Relay Out2~4(NO/COM)	In 4EA, Out 2EA – Relay Out1(NO/NC/COM) – Relay Out2(NO/COM)
N/W Camera Support	SUNAPI, ONVIF	SUNAPI, ONVIF	SUNAPI, ONVIF
Additional Features	–	–	–

AI PVMs

Controller

	SMT-3231PV 32" AI PVM	SMT-3221PV 32" AI PVM	SMT-2731PV 27" AI PVM	SMT-2721PV 27" AI PVM	SMT-1031PV 10" AI PVM	SMT-1031PVW 10" AI PVMr	SPC-2001 PTZ / DVR System Controller
Imaging Device		1/2.8" 2MP CMOS					
Max FrameRate		"H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 15fps/12fps(60Hz/50Hz)"					
Focal Length (Zoom Ratio)		3.06mm fixed focal					
Min. Illumination		Color: 0.03Lux (F1.6, 1/30sec)					
Analytics		Classified object type: Person/Face Attributes: Not support 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)w					• 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
Business Intelligence		People counting, Queue management, Heatmap based on AI engine					
Privacy Masking		32ea, 4point Quadrangle zones					
Wide Dynamic Range		120dB					
Digital Noise Reduction		SSNR V , WiseNR II (Based on AI engine)					
Edge Storage		Micro SD/SDHC/SDXC 1slot 256GB					
Application Programming Interface		"ONVIF Profile S/G/T/M SUNAPI(HTTP API)"					
VESA Mounts Interface		VESA 100 x 100mm, 200 x 100mm, 200 x 200mm				VESA 75 x 75mm	
Power Consumption	56W		31W			14W	

Features (SPC-2001): • 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

LED Monitor

|	SMT-4343 43" LED Monitor	SMT-3240 32" LED Monitor	SMT-3215 31.5" LED Monitor	SMT-2740 27'' LED Monitor	SMT-2710 27'' LED Monitor	SMT-2431 24" LED Monitor	SMT-2212 22" LED Monitor
Screen Size	43"	32"	31.5"	27''	27''	24"	22"
Max. Resolution	3840 x 2160	3840 x 2160	1920*1080, 60Hz (FHD)	3840 x 2160, 60Hz (UHD)	1920 x 1080, 60Hz (FHD)	1920 x 1080	1920 x 1080
Brightness	300 cd/m²	300 cd/m²	300cd/m²	300 cd/m²	250 cd/m²	250 cd/m²	250 cd/m²
Contrast Ratio	1000:1	1000:1	4000:1	1200:1	4000:1	4000:1	3000 : 1
Aspect Ratio				16:9			
Viewing Angle(H/V)				178˚/178˚			
Response Time	8.5ms	14ms	20ms	–	6.5ms	14ms	6.5ms
Interface	HDMI (1), DP (1)	HDMI 2.0(1), DP 1.2(1)	VGA(1), HDMI 1.4(1), DP 1.2(1)	HDMI 2.0(2), DP1.4(1), two windows PIP/PBP	VGA(1), HDMI 1.4(1), DP 1.2(1)	HDMI (1), VGA (1)	HDMI(1), VGA(1)
Audio In/Out	–/1	–/1	1/1	–/–	1/1	–/–	–/–
Built–in Speakers	Yes	Yes	Yes	Yes	Yes	–	–
VESA Mount(mm)	100*100/400*200	100*100	100*100	100*100	100*100	100*100	100*100
Power	100V ~ 240V AC	100V ~ 240V AC	100V~240V AC	100V~240V AC	100V~240V AC	100V ~ 240V AC	DC 12V 5A
Stand	Optional	Yes	Yes	Yes	Yes	Yes	Yes
Additional Features	Remote Controller	–	–	–	–	–	–
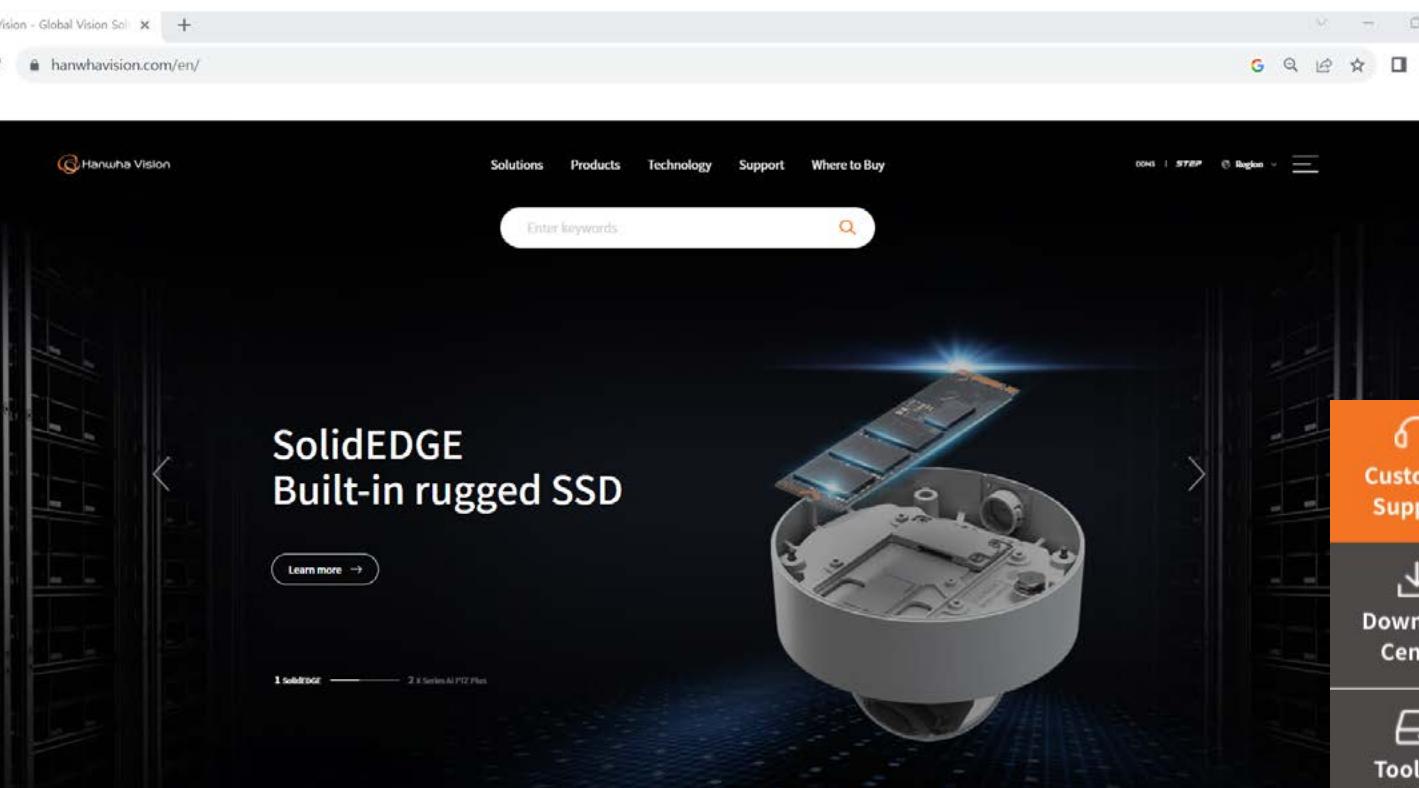
Lens

Model	Image	Mount	Image Format	Resolution	Focal Length	Back Focal Length	Zoom Ratio	F. No	Angle of View	Operation			Dimensions W x H x D (mm / inch)	Weight (g / lb)
										Iris	Focus	Zoom		
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			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							Manual	Manual		84g (0.19 lb)
SLA−M2890PN					2.8 ~ 9mm (0.11" ~ 0.35")	7.5 ~ 15.9mm (0.3" ~ 0.63")	3.2	1.2	134.2° ~ 42.7°	P−Iris			W 45 x H 51.5 x D 54.3mm (1.77" x 2.03" x 2.14")	82.1g (0.18 lb)
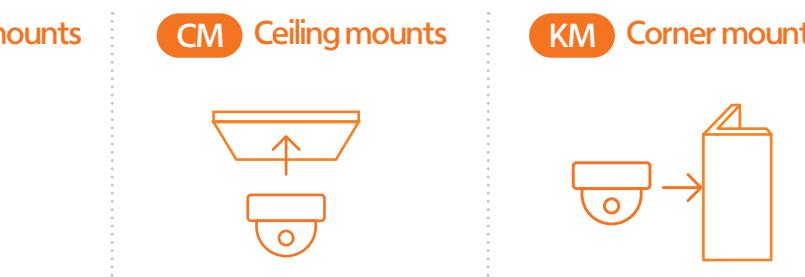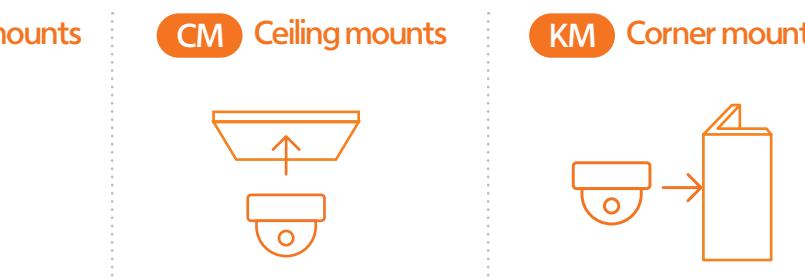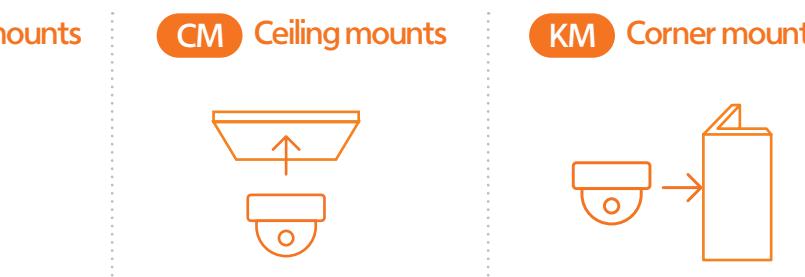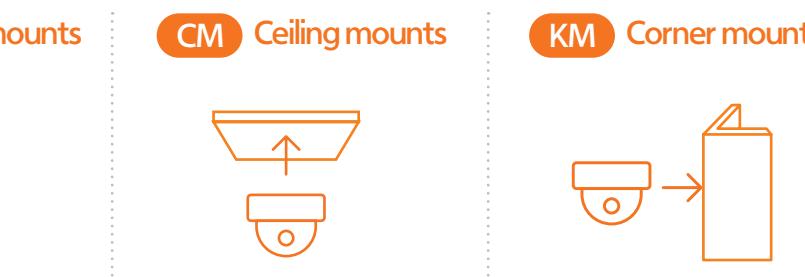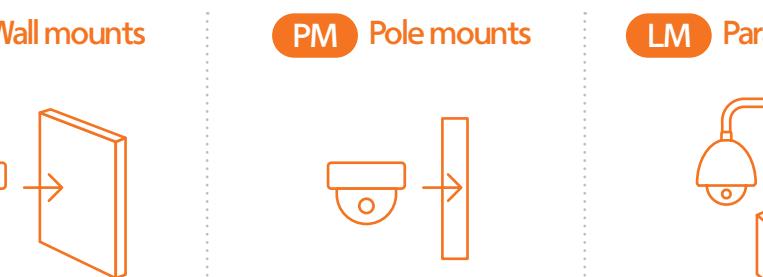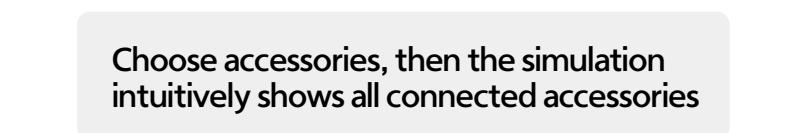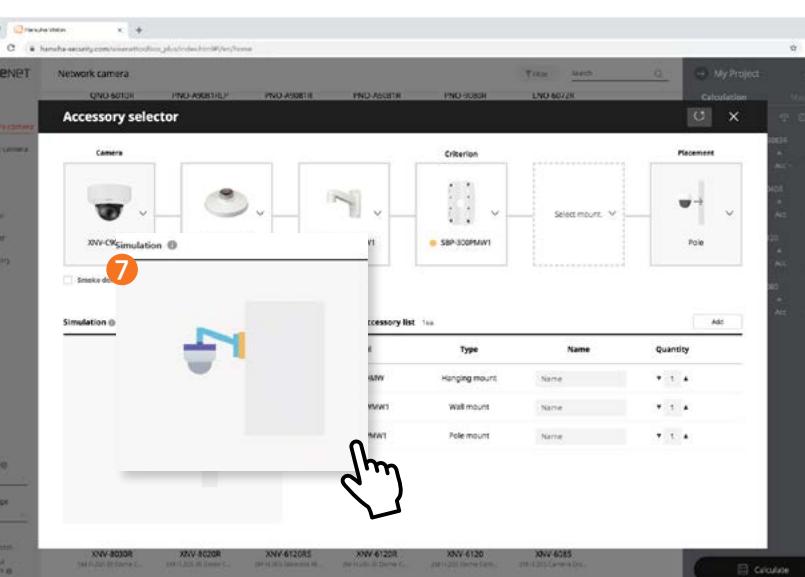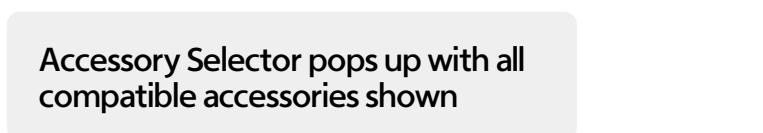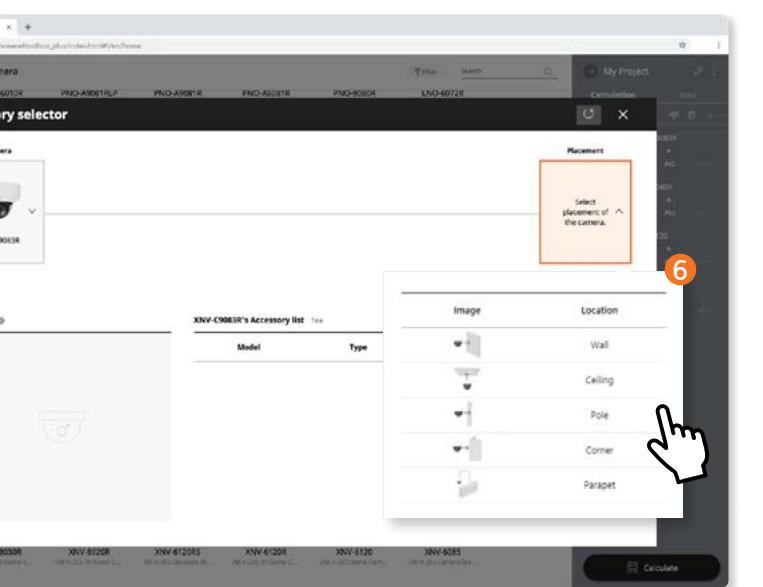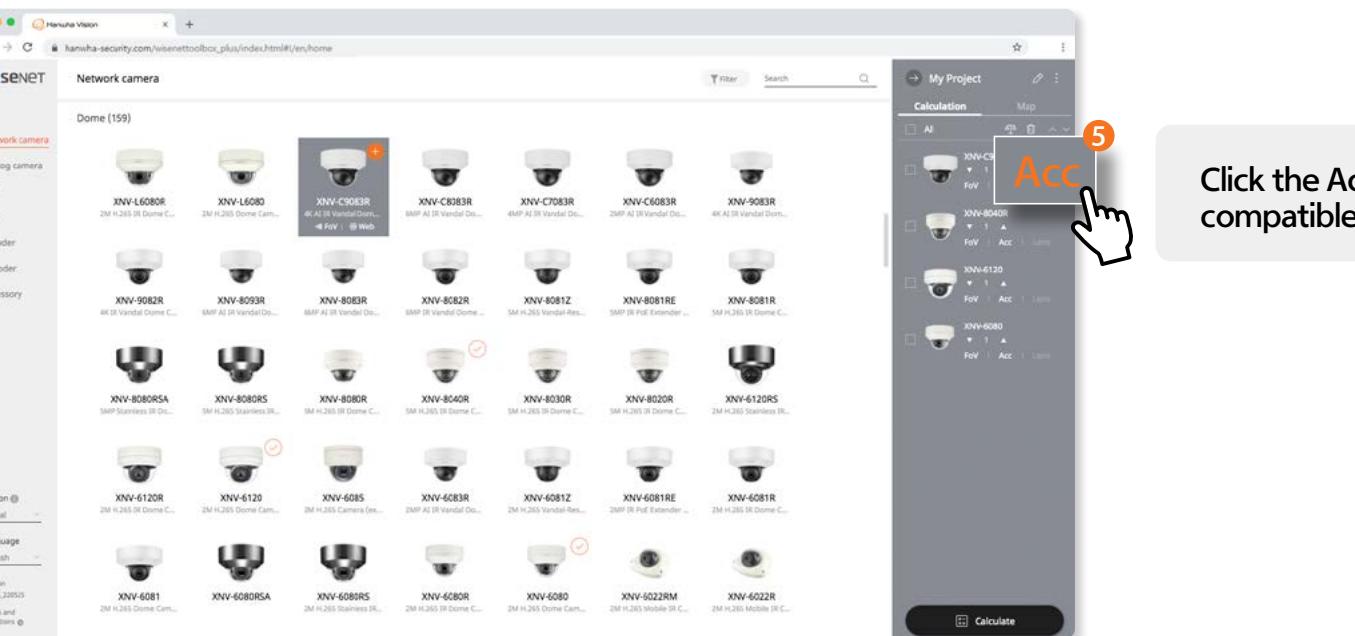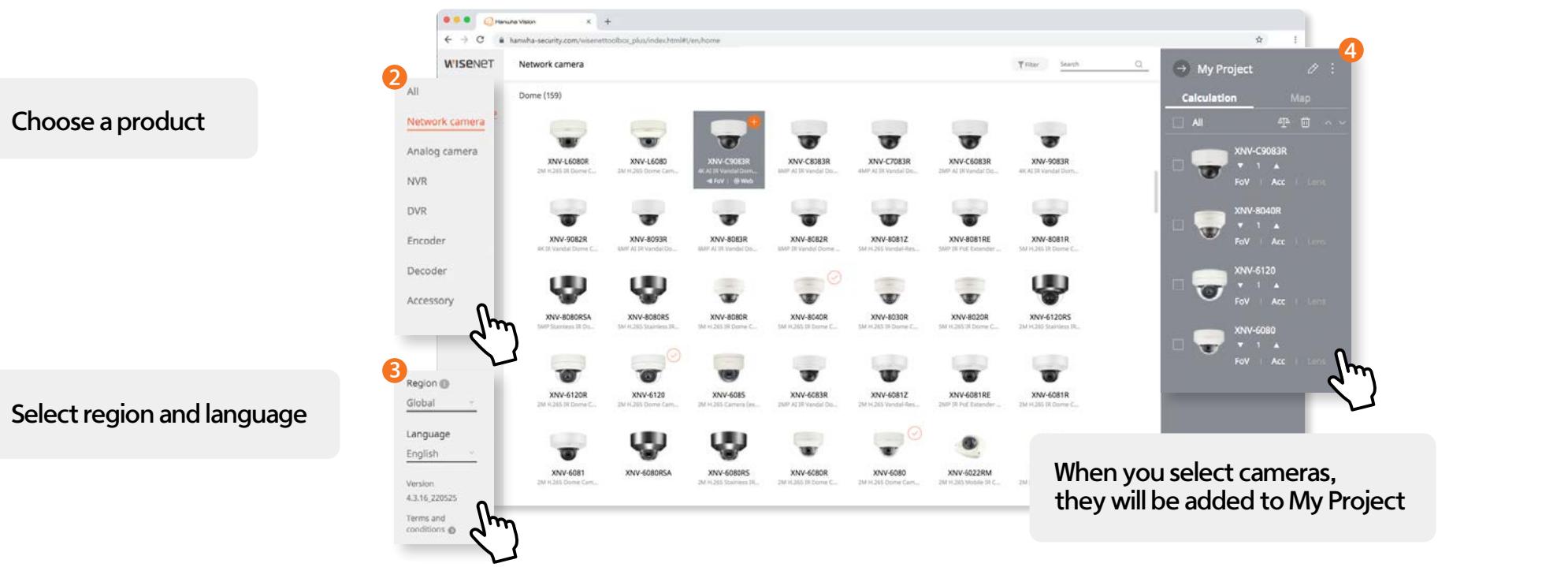
Toolbox Plus
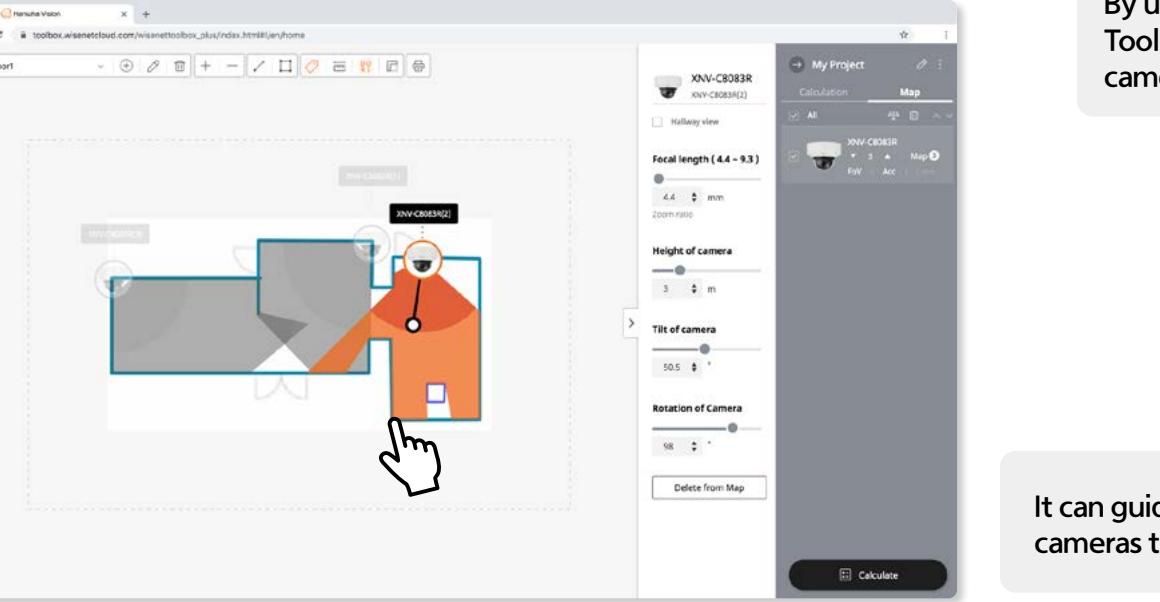
Click Toolbox Plus on Hanwha Vision.com
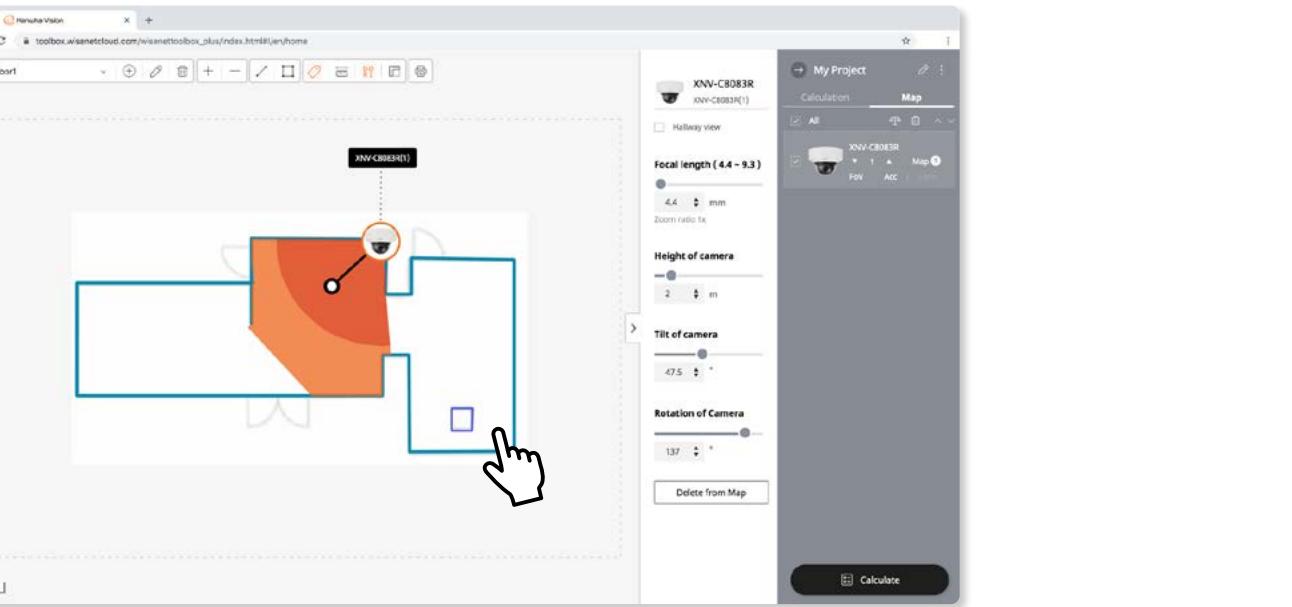
Or you can also connect by using below URL
(https://www.hanwhavision.com/wisenettoolbox_plus)

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Choose a product

Select region and language

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

Click the Acc to find compatible accessories

Accessory Selector pops up with all compatible accessories shown

Choose accessories, then the simulation intuitively shows all connected accessories

WM Wall mounts   **PM** Pole mounts   **LM** Parapet mounts   **CM** Ceiling mounts   **KM** Corner mounts

Newly updated in Toolbox Plus: Simulate on the map

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

By uploading your map to Toolbox Plus, you can test how cameras cover your space

It can guide you on how to choose and install cameras to minimise blind spots in advance

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