

WISeNeT

SAMSUNG

HEAD OFFICE
6, Pangyo-ro 319 beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Rep. of KOREA
Tel : +82.70.7147.8753 Fax : +82.31.8018.3740
<http://hanwha-security.com>

Hanwha Techwin America
500 Frank W. Burr Blvd. Suite 43 Teaneck, NJ 07666
Toll Free : +1.877.213.1222 Direct : +1.201.325.6920
Fax : +1.201.373.0124
www.hanwhasecurity.com

Hanwha Techwin Europe
Heriot House, Heriot Road, Chertsey, Surrey, KT16 9DT, United Kingdom
Tel : +44.1932.57.8100 Fax : +44.1932.57.8101
www.hanwha-security.eu

Hanwha Techwin Tianjin
No.11 Weiliu Rd., Micro-electronic Industrial Park,
Jingang Road Tianjin 300385, ChinaTel : +86-22-2388-8402
www.hanwha-security.cn

Hanwha Techwin Middle East FZE
JAFZA View 18, 20th floor, office 2001, 2002, 2003, Downtown Jebel Ali,
Dubai, United Arab Emirates
<http://hanwha-security.com>

© 2017 Hanwha Techwin Co., Ltd. All rights reserved.

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
Under no circumstances, this document shall be reproduced, distributed or changed,
partially or wholly, without formal authorization of Hanwha Techwin Co.,Ltd.

M.H-1702



WISeNeT X series
Defining the new standard of excellence

THE MOST POWERFUL CHIPSET Wisenet 5



WISENET X series



Wisenet X series is supercharged by the most powerful
chipset ever incorporated into a full camera range.
The Wisenet 5 chip uses an all-new architecture that enables faster processing.
That means you get the best video performance just as you need it.

MAKE IT CLEAR



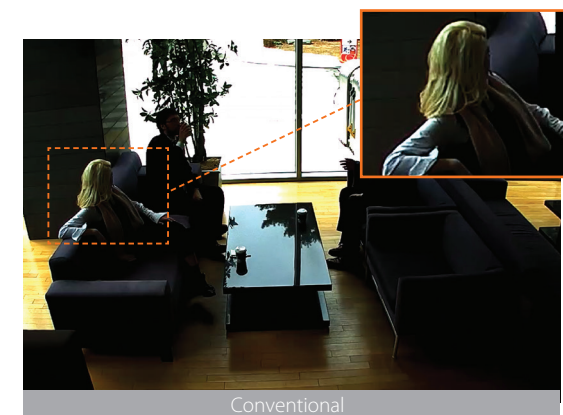
Wisenet X series,
a technology that produces exceptional
image quality even with backlight

Introducing Wisenet X series, an advanced technology that optimally adjusts lighting levels with extreme accuracy, even with backlight.

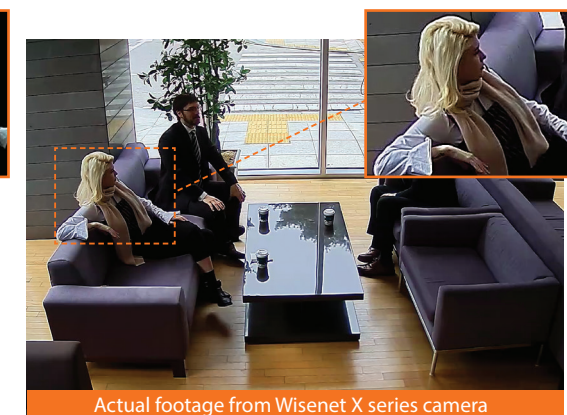


The World's best WDR 150dB

An existing WDR image is captured by composing 2 frames with different exposures, but the Wisenet X series with **150dB** WDR uses 4 frames to create a more natural image. Motion blur is a critical weakness of existing WDR, but this new technology removes all movement, providing clear and vivid images.



Conventional

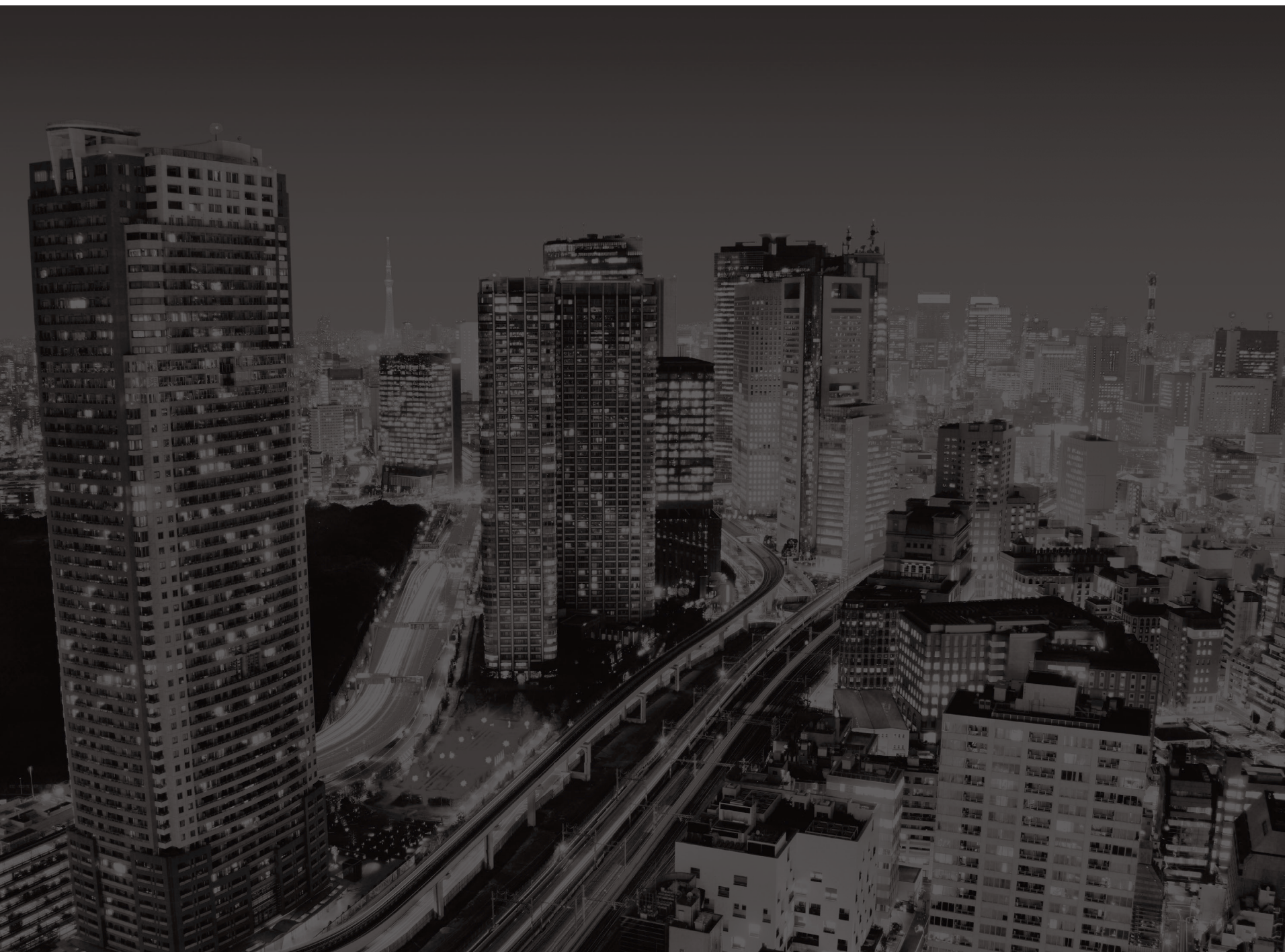


Actual footage from Wisenet X series camera

※Wisenet X series 5M cameras support 120dB.

SEE THE UNSEEN

Wisenet X series, the power that suppresses darkness



Experience the outstandingly clear images of Wisenet X series that achieves excellence in dark environment.

Monitor color images, even in low-light

With the new powerful chipset used in the Wisenet X series and **Hanwha Techwin's** outstanding lens technology, images can be monitored in low-light environments including color without IR LED. Vivid images can now be captured regardless of the environment or the time of day.



Conventional



Actual footage from Wisenet X series camera

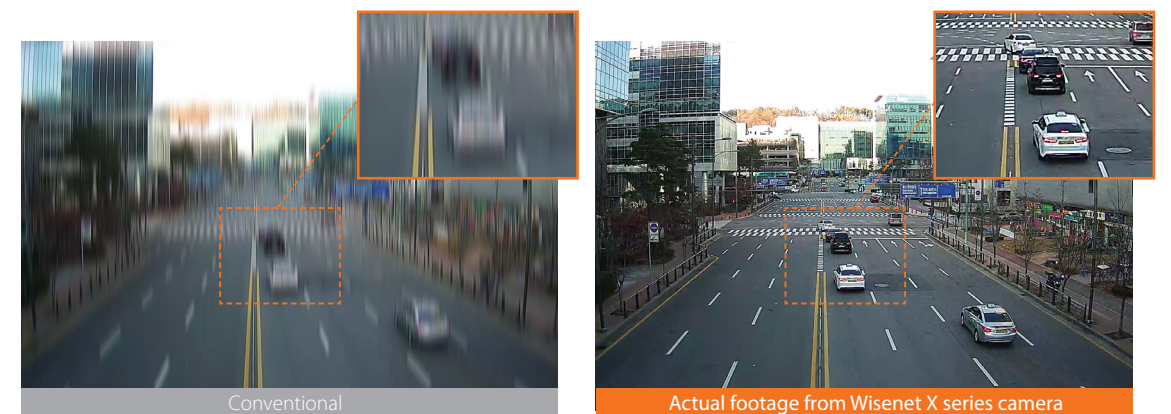
DON'T MISS A MOMENT



You can count on Wisenet X series to capture every moment.

More accurate stabilization using gyro sensors

Gyro sensors have been added to the technology used in existing cameras for more accurate stabilization. Stabilization comes into effect when a camera is disturbed by wind or vibrations, resulting in more stable images.



※XNB-8000/6000 supported

ADVANCED COMPRESSION

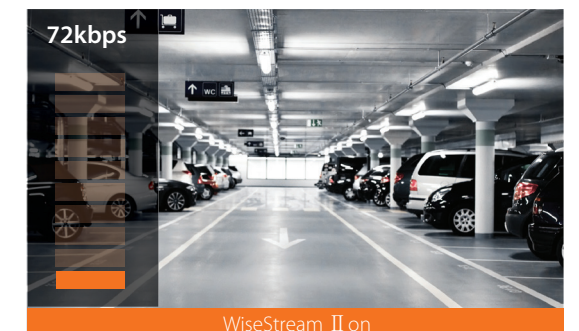
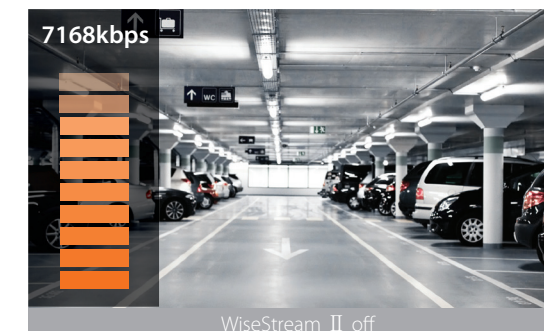
WiseStream II - the Wise Choice



Reduce storage space with the advanced compression technology, WiseStream II.

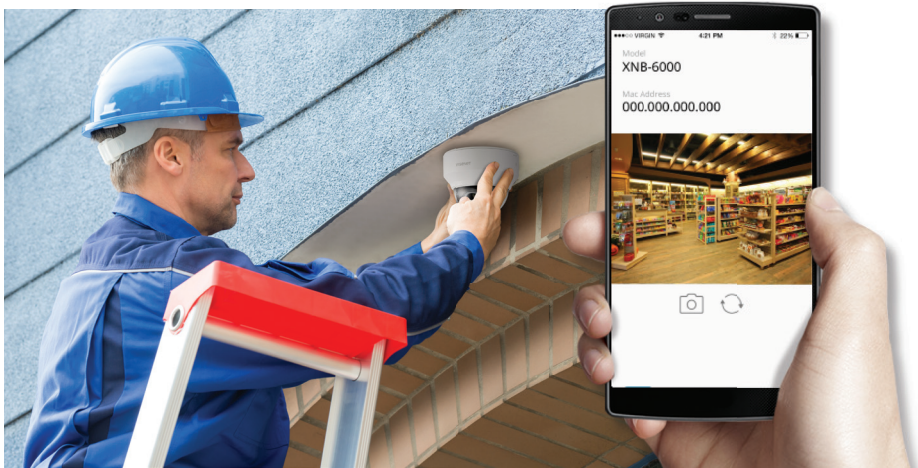
Improve bandwidth by up to 99% using WiseStream II

Using WiseStream II, Hanwha Techwin's original video compression technology, the Wisenet X series reduces data by up to 99% compared to current H.264 technology, when combined with H.265 compression. System costs are also greatly reduced without comprising image quality.







More convenient installation with USB

Wisenet X series can connect cameras and mobile devices through USB and Wi-Fi. View angles can be checked immediately after installation using a smartphone. No additional devices are required, saving you time and money.



Enhanced Video and Audio Analytics

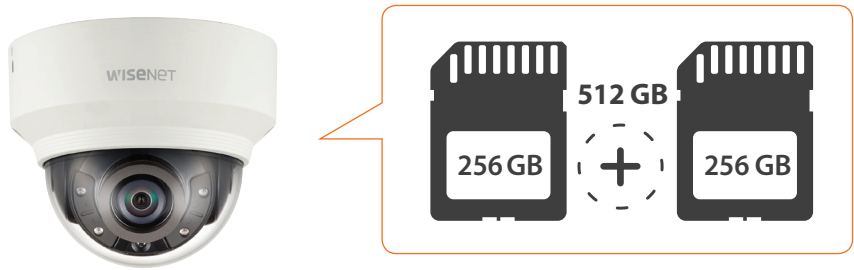
Wisenet X series comes with a variety of exclusive new Video and Audio Analytics, providing enhanced monitoring solutions and market intelligence.

Behavior Analytics	Appear, Disappear, Loitering
Passing	Virtual line, Enter/Exit, Directional Detection
Image quality enhancement	Defocus Detection, Fog detection
Detection	Motion Detection, Tampering, Face Detection, Audio detection
Statistics for Market Intelligence	Heat map, People counting, Queue management
Audio Analytics Sound classification	Explosion  Glass breakage  Gun shot  Scream 

※ bold: new added

Dual SD slots

Dual SD slots allow up to **512 GB** to be saved automatically to the camera, keeping data safe in the event of an unstable network. Obviously this allows to record more video footage than single SD slot.



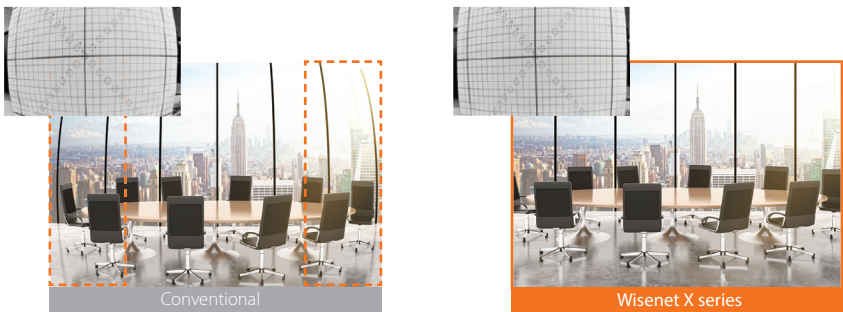
Fog Detection

Wisenet X series delivers outstanding image quality in foggy weather with Fog Detection. Any change in an image is automatically deleted with the defog function to provide a clear image.



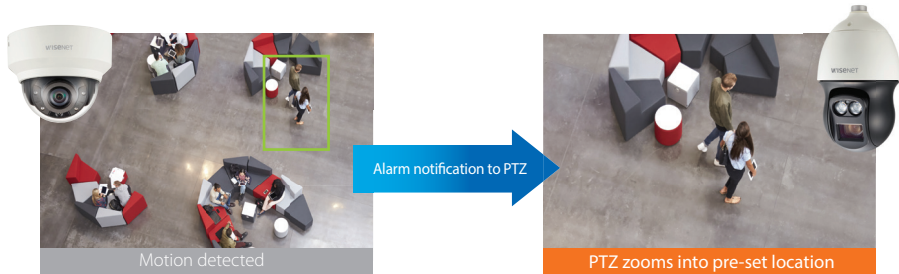
Minimize Lens Distortion





Lens Distortion may typically appear in videos causing straight lines close to the edge curve outwards. With the Lens Distortion Correction technology available on the Wisenet X series, imperfections in images can be easily repaired.














Handover to PTZ


The handover feature allows a PTZ camera* to receive an alarm(motion detection) from Wisenet X series camera operating on the same IP video surveillance system. Once the notification is received, the PTZ camera will zoom into the assigned camera pre-set location. This feature improves the efficiency of the surveillance system by decreasing the reliance on the system operator on tracking events, and by increasing the likelihood that critical events in a surveillance area will be captured and recorded. ※PNP-9200RH / XNP-6370RH



							
WISENET X XNB-8000		WISENET X XNB-6000		WISENET X XNO-8080R		WISENET X XNO-8020R/8030R/8040R	
Resolution		5MP	2MP	5MP	5MP		
VIDEO	Imaging Device	1/1.8" 6M CMOS	1/2.8" 2M CMOS	1/1.8" 6M CMOS	1/1.8" 6M CMOS		
	Video Compression Format	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG		
	Resolution / Max. Frame Rate	5M / 30fps	2M / 60fps	5M / 30fps	5M / 30fps		
	Streaming Capacity	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)		
	Max. User Access	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)		
	Min. Illumination	Color: 0.07Lux B/W: 0.007Lux	Color: 0.01Lux B/W: 0.001Lux	Color: 0.07Lux B/W: 0Lux (IR LED on)	Color: 0.16Lux B/W: 0Lux (IR LED on)		
	Video Output	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B		
	Lens	-	-	3.7 ~ 9.4mm (2.5x) Motorized V/F (F1.2)	3.7mm fixed (F1.6) (XNO-8020R) 4.6mm fixed (F1.6) (XNO-8030R) 7mm fixed (F1.6) (XNO-8040R)		
	Angular Field of View	-	-	H: 100.2° ~ 38.7° / V: 72.7° ~ 29.0° / D: 132.0° ~ 48.6°	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)		
	Focus Control	Simple focus / Manual	Simple focus / Manual	Simple focus (Motorized V/F) / Manual	-		
OPERATIONAL	IR Viewable Length	-	-	50m (164.04ft)	30m (98.43ft)		
	Pan / Tilt / Rotate	-	-	-	-		
	Day & Night	True (ICR)	True (ICR)	True (ICR)	True (ICR)		
	Backlight Compensation	WDR (120dB)	WDR (150dB)	WDR (120dB)	WDR (120dB)		
	Digital Noise Reduction	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)		
	Digital Image Stabilization	Support	Support	Support	Support		
	Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management		
FEATURES	Protocol	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI		
	Alarm I/O	1 / 1	1 / 1	1 / 1	1 / 1		
	Audio	Bi-directional	Bi-directional	Bi-directional	Bi-directional		
	Edge Storage	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC		
	Environment Protection	-	-	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10		
	Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-40°C ~ +55°C (-40°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)		
	Power	AC 24V (Max. 8.5W) DC 12V (Max. 7.5W) PoE (Max. 8.5W)	AC 24V (Max. 8W) DC 12V (Max. 6.5W) PoE (Max. 7.5W)	AC 24V (Max. 14.5W) DC 12V (Max. 12.5W) PoE (Max. 12.95W)	DC 12V (Max. 9.3W) PoE (Max. 10.3W)		
	Dimensions (WxHxD) / Weight	73.1 x 66.6 x 147.8mm (2.88" x 2.62" x 5.82") 420g (0.93lb)	73.1 x 66.6 x 147.8mm (2.88" x 2.62" x 5.82") 420g (0.93lb)	Ø91.0 x 368.6mm (Ø3.58" x 14.51") (Without sunshield) 2.18Kg (4.81lb)	Ø70.0 x 296.0mm (Ø2.72" x 11.65") (Without sunshield) 1.22kg (2.69lb)		
	Additional Features	DIS with Gyro sensor, Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	DIS with Gyro sensor, Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		

											
WISENET X XNO-6080R		WISENET X XNO-6010R/6020R		WISENET X XND-8080R		WISENET X XND-8080RV		WISENET X XND-8020R/8030R/8040R		WISENET X XND-6080	
2MP		2MP		5MP	5MP	5MP	5MP	5MP	5MP	2MP	
1/2.8" 2M CMOS		1/2.8" 2M CMOS		1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/2.8" 2M CMOS	
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	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	
2M / 60fps		2M / 60fps		5M / 30fps	5M / 30fps	5M / 30fps	5M / 30fps	5M / 30fps	5M / 30fps	2M / 60fps	
Multiple (Up to 10 profiles)		Multiple (Up to 10 profiles)		Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	
20 (Unicast)		20 (Unicast)		20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	
Color: 0.015Lux B/W: 0Lux (IR LED on)		Color: 0.055Lux (XNO-6010R), 0.015 (XNO-6020R) B/W: 0Lux (IR LED on)		Color: 0.07Lux B/W: 0Lux (IR LED on)	Color: 0.07Lux B/W: 0Lux (IR LED on)	Color: 0.07Lux B/W: 0Lux (IR LED on)	Color: 0.07Lux B/W: 0Lux (IR LED on)	Color: 0.16Lux B/W: 0Lux (IR LED on)	Color: 0.16Lux B/W: 0Lux (IR LED on)	Color: 0.015Lux B/W: 0.0015Lux	
CVBS 1.0Vpp, micro USB type B		CVBS 1.0Vpp, micro USB type B		CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	
2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)		2.4mm fixed (F2.0) (XNO-6010R) 4mm fixed (F1.4) (XNO-6020R)		3.9 ~ 9.4mm (2.4x) Motorized V/F (F1.3)	3.9 ~ 9.4mm (2.4x) Motorized V/F (F1.3)	3.9 ~ 9.4mm (2.4x) Motorized V/F (F1.3)	3.9 ~ 9.4mm (2.4x) Motorized V/F (F1.3)	3.7mm fixed (F1.6) (XND-8020R) 4.6mm fixed (F1.6) (XND-8030R) 7mm fixed (F1.6) (XND-8040R)	3.7mm fixed (F1.6) (XND-8020R) 4.6mm fixed (F1.6) (XND-8030R) 7mm fixed (F1.6) (XND-8040R)	2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)	
H: 119.5° ~ 27.9° / V: 62.8° ~ 15.7° / D: 142.1° ~ 32.0°		H: 139.0° / V: 73.0° / D: 167.0° (XNO-6010R) H: 88.6° / V: 47.5° / D: 104.8° (XNO-6020R)		H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°	H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°	H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°	H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°	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° (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: 119.5° ~ 27.9° / V: 62.8° ~ 15.7° / D: 142.1° ~ 32.0°	
Simple focus (Motorized V/F) / Manual		-		Simple focus (Motorized V/F) / Manual	Simple focus (Motorized V/F) / Manual	Simple focus (Motorized V/F) / Manual	Simple focus (Motorized V/F) / Manual	-	-	Simple focus (Motorized V/F) / Manual	
50m (164.04ft)		20m (65.61ft)(XNO-6010R) 30m (98.43ft)(XNO-6020R)		30m (98.43ft)	30m (98.43ft)	30m (98.43ft)	30m (98.43ft)	30m (98.43ft)	30m (98.43ft)	-	
-		-		0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	
True (ICR)		True (ICR)		True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	
WDR (150dB)		WDR (150dB)		WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (150dB)	
SSNRV (2D+3D noise filter)		SSNRV (2D+3D noise filter)		SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	
Support		Support		Support	Support	Support	Support	Support	Support	Support	
Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Queue management		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	
ONVIF profile S & G, SUNAPI		ONVIF profile S & G, SUNAPI		ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	
1 / 1		1 / 1		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	
Bi-directional		Bi-directional		Bi-directional	Bi-directional	Bi-directional	Bi-directional	Bi-directional	Bi-directional	Bi-directional	
SD/SDHC/SDXC, NAS, Local PC		SD/SDHC/SDXC, NAS, Local PC		SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	
IP67, IP66, NEMA 4X, IK10		IP67, IP66, NEMA 4X, IK10		IK08	IK08	IK08	IK08	IK08	IK08	IK08	
-40°C ~ +55°C (-40°F ~ +131°F)		-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)		-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	
AC 24V (Max. 15W) DC 12V (Max. 12W) PoE (Max. 12.95W)		DC 12V (Max. 8.8W) PoE (Max. 9.7W)		DC 12V (Max. 9W) PoE (Max. 10W)	DC 12V (Max. 9W) PoE (Max. 10W)	DC 12V (Max. 9W) PoE (Max. 10W)	DC 12V (Max. 9W) PoE (Max. 10W)	DC 12V (Max. 8W) PoE (Max. 9W)	DC 12V (Max. 8W) PoE (Max. 9W)	DC 12V (Max. 6W) PoE (Max. 6.5W)	
Ø91.0 x 368.6mm (Ø3.58" x 14.51") (Without sunshield) 2.18Kg (4.81lb)		Ø70 x 301.5mm (Ø2.76" x 11.87") XNO-6010R Ø70x296mm (Ø2.76" x 11.65") XNO-6020R (Without sunshield) 1.22Kg (2.69lb)		Ø140.8 x 113.0mm (Ø5.54" x 4.45") 628g (1.39lb)	Ø140.8 x 113.0mm (Ø5.54" x 4.45") 732g (1.61lb)	Ø140.8 x 113.0mm (Ø5.54" x 4.45") 732g (1.61lb)	Ø140.8 x 113.0mm (Ø5.54" x 4.45") 732g (1.61lb)	Ø110.0 x 90.0mm (Ø4.33" x 3.54") 380g (0.84lb)	Ø110.0 x 90.0mm (Ø4.33" x 3.54") 380g (0.84lb)	Ø140.8 x 113.0mm (Ø5.54" x 4.45") 610g (1.34lb)	
Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	

 New		 New		 New		 New		 New	
Wisenet X XND-6080R		Wisenet X XND-6080V		Wisenet X XND-6080RV		Wisenet X XND-6010		Wisenet X XND-6020R	
Resolution		2MP		2MP		2MP		2MP	
VIDEO	Imaging Device	1/2.8" 2M CMOS		1/2.8" 2M CMOS		1/2.8" 2M CMOS		1/2.8" 2M CMOS	
	Video Compression Format	H.265, H.264, MJPEG		H.265, H.264, MJPEG		H.265, H.264, MJPEG		H.265, H.264, MJPEG	
	Resolution / Max. Frame Rate	2M / 60fps		2M / 60fps		2M / 60fps		2M / 60fps	
	Streaming Capacity	Multiple (Up to 10 profiles)		Multiple (Up to 10 profiles)		Multiple (Up to 10 profiles)		Multiple (Up to 10 profiles)	
	Max. User Access	20 (Unicast)		20 (Unicast)		20 (Unicast)		20 (Unicast)	
	Min. Illumination	Color : 0.015Lux B/W : 0Lux (IR LED on)		Color : 0.015Lux B/W : 0.0015Lux		Color : 0.015Lux B/W : 0Lux (IR LED on)		Color : 0.015 lux B/W : 0Lux(IR LED On)	
	Video Output	CVBS 1.0Vpp, micro USB type B		CVBS 1.0Vpp, micro USB type B		CVBS 1.0Vpp, micro USB type B		CVBS 1.0Vpp, micro USB type B	
	Lens	2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)		2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)		2.4mm fixed (F2.0)		4mm fixed(F1.4)	
	Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°		H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°		H : 139.0° / V : 73.0° / D : 167.0°		H : 88.6° / V : 47.5° / D : 104.8°	
	Focus Control	Simple focus (Motorized V/F) / Manual		Simple focus (Motorized V/F) / Manual		-		-	
OPERATIONAL	IR Viewable Length	30m (98.43ft)		-		30m (98.43ft)		-	
	Pan / Tilt / Rotate	0° ~ 354° / 0° ~ 67° / 0° ~ 355°		0° ~ 354° / 0° ~ 67° / 0° ~ 355°		0° ~ 354° / 0° ~ 67° / 0° ~ 355°		0° ~ 354° / 0° ~ 67° / 0° ~ 355°	
	Day & Night	True (ICR)		True (ICR)		True (ICR)		True (ICR)	
	Backlight Compensation	WDR (150dB)		WDR (150dB)		WDR (150dB)		WDR (150dB)	
	Digital Noise Reduction	SSNRV (2D+3D noise filter)		SSNRV (2D+3D noise filter)		SSNRV (2D+3D noise filter)		SSNRV (2D+3D noise filter)	
	Digital Image Stabilization	Support		Support		Support		Support	
	Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	
		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	
		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	
		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification		Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	
FEATURES	Protocol	ONVIF profile S & G, SUNAPI		ONVIF profile S & G, SUNAPI		ONVIF profile S & G, SUNAPI		ONVIF profile S & G, SUNAPI	
	Alarm I/O	1 / 1		1 / 1		1 / 1		1 / 1	
	Audio	Bi-directional		Bi-directional		Bi-directional		Bi-directional	
	Edge Storage	SD/SDHC/SDXC, NAS, Local PC		SD/SDHC/SDXC, NAS, Local PC		SD/SDHC/SDXC, NAS, Local PC		SD/SDHC/SDXC, NAS, Local PC	
	Environment Protection	IK08		IK08		IK08		IK08	
	Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)		-10°C ~ +55°C (+14°F ~ +131°F)		-10°C ~ +55°C (+14°F ~ +131°F)		-10°C ~ +55°C (+14°F ~ +131°F)	
	Power	DC 12V (Max. 9W) PoE (Max. 10W)		DC 12V (Max. 6W) PoE (Max. 6.5W)		DC 12V (Max. 9W) PoE (Max. 10W)		DC 12V (Max. 8W) PoE (Max. 9W)	
	Dimensions (WxHxD) / Weight	Ø140.8 x 113.0mm (Ø5.54" x 4.45") 624g (1.38lb)		Ø140.8 x 113.0mm (Ø5.54" x 4.45") 714g (1.57lb)		Ø110.0 x 90.0mm (Ø4.33" x 3.54") 365g (0.80lb)		Ø110.0 x 90.0mm (Ø4.33" x 3.54") 380g (0.84lb)	
	Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	
		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view		Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	

 WISENET X XNV-8080R	 WISENET X XNV-8020R/8030R/8040R	 WISENET X XNV-6080	 WISENET X XNV-6080R	 WISENET X XNV-6010	 WISENET X XNV-6020R
5MP	5MP	2MP	2MP	2MP	2MP
1/1.8" 6M CMOS	1/1.8" 6M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS
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	H.265, H.264, MJPEG
5M / 30fps	5M / 30fps	2M / 60fps	2M / 60fps	2M / 60fps	2M / 60fps
Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)	Multiple (Up to 10 profiles)
20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)	20 (Unicast)
Color : 0.07Lux B/W : 0Lux (IR LED on)	Color : 0.16Lux B/W : 0Lux (IR LED on)	Color : 0.015Lux B/W : 0.0015Lux	Color : 0.015Lux B/W : 0Lux (IR LED on)	Color : 0.055Lux B/W : 0.0055Lux	Color : 0.015 lux B/W : 0Lux (IR LED On)
CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B	CVBS 1.0Vpp, micro USB type B
3.9 ~ 9.4mm (2.4x) Motorized V/F (F1.3)	3.7mm fixed (F1.6) (XNV-8020R) 4.6mm fixed (F1.6) (XNV-8030R) 7mm fixed (F1.6) (XNV-8040R)	2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)	2.8 ~ 12mm (4.3x) Motorized V/F (F1.4)	2.4mm fixed (F2.0)	4mm fixed (F1.4)
H : 92.1° ~ 38.7° / V : 67.2° ~ 29.0° / D : 119.9° ~ 48.6°	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 : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°	H : 139.0° / V : 73.0° / D : 167.0°	H : 88.6° / V : 47.5° / D : 104.8°
Simple focus (Motorized V/F) / Manual	-	Simple focus (Motorized V/F) / Manual	Simple focus (Motorized V/F) / Manual	-	-
50m (164.04ft)	30m (98.43ft)	-	50m (164.04ft)	-	30m (98.43ft)
0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)
WDR (120dB)	WDR (120dB)	WDR (150dB)	WDR (150dB)	WDR (150dB)	WDR (150dB)
SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)	SSNRV (2D+3D noise filter)
Support	Support	Support	Support	Support	Support
Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI	ONVIF profile S & G, SUNAPI
1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Bi-directional	Bi-directional	Bi-directional	Bi-directional	Bi-directional	Bi-directional
SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC	SD/SDHC/SDXC, NAS, Local PC
IP67, IP66, NEMA 4X, IK10	IP67, IP66, IK10	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10	IP67, IP66, NEMA 4X, IK10
-40°C ~ +55°C (-40°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) *Start up above -20°C (-4°F)	-40°C ~ +55°C (-40°F ~ +131°F)	-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)
AC 24V (Max. 14W) DC 12V (Max. 11.5W) PoE (Max. 12.95W)	DC 12V (Max. 8W) PoE (Max. 9W)	AC 24V (Max. 8.2W) DC 12V (Max. 7W) PoE (Max. 7.8W)	AC 24V (Max. 14W) DC 12V (Max. 11.5W) PoE (Max. 12.95W)	DC 12V (Max. 5.5W) PoE (Max. 6W)	DC 12V (Max. 8W) PoE (Max. 9W)
Ø160.0 x 118.5mm (Ø6.3" x 4.67") 1.01Kg (2.23lb)	Ø120.0 x 97.5mm (Ø4.72" x 3.84") 615g (1.36lb)	Ø160.0 x 118.5mm (Ø6.3" x 4.67") 985g (2.17lb)	Ø160.0 x 118.5mm (Ø4.72" x 3.84") 995g (2.19lb)	Ø120.0 x 97.5mm (Ø4.72" x 3.84") 625g (1.38lb)	Ø120.0 x 97.5mm (Ø4.72" x 3.84") 615g (1.36lb)
Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view	Handover, WiseStream II, Advanced video analytics, Sound classification (Explosion, Gunshot, Glass breakage, Scream etc), Hallway view

XNB-8000

5M Network Camera



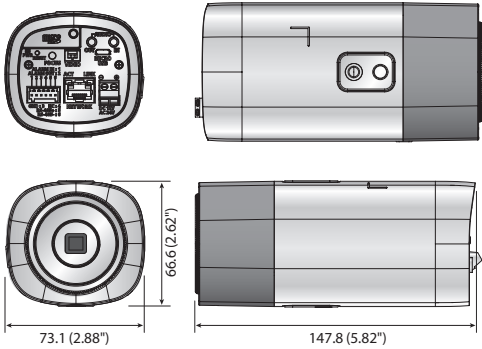
* Lens not included

Key Features

- Max. 5megapixel (2560 x 1920) resolution
- 0.07Lux@F1.2 (Color), 0.007Lux@F1.2 (B/W)
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), P-Iris, Defog
- Digital image stabilization with built-in Gyro sensor
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



SHB-4300H/4300H1 / 4300H2/4300HP SHB-4200/4200H STB-400 use with STH-200 STB-4150V

	XNB-8000
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.07Lux (F1.2, 1/30sec), B/W : 0.007Lux (F1.2, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focus Control	Simple focus / Manual, Remote control via network, Button control (Manual, Simple focus)
Lens Type	Manual / DC auto iris, P-Iris
Mount Type	C / CS
OPERATIONAL	
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On (Built-in Gyro sensor)
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Remote Control Interface	RS-485
RS-485 Protocol	Samsung-T/E, Pelco-P/D, Sungjin, Panasonic, Honeywell, AD, Vicon, GE, Bosch
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
Supply voltage	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Line out, Max output level	1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
G.726	16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication
Streaming Method	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Unicast / Multicast	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
NAS (Network Attached Storage), Local PC for instant recording	NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12
Non-plugin Webviewer	Non-plugin Webviewer
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
Plug-in Webviewer	Plug-in Webviewer
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
SmartViewer, SSM	SmartViewer, SSM
Central Management Software	SmartViewer, SSM
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
INGRESS PROTECTION / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 7.5W (12VDC), Max. 8.5W (PoE), Max. 8.5W (24VAC)
MECHANICAL	
Color / Material	Black, Ivory / Plastic
Dimensions (WxH)	73.1 x 66.6 x 147.8mm (2.88" x 2.62" x 5.82")
Weight	420g (0.93lb)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XNO-8080R

5M Network IR Bullet Camera

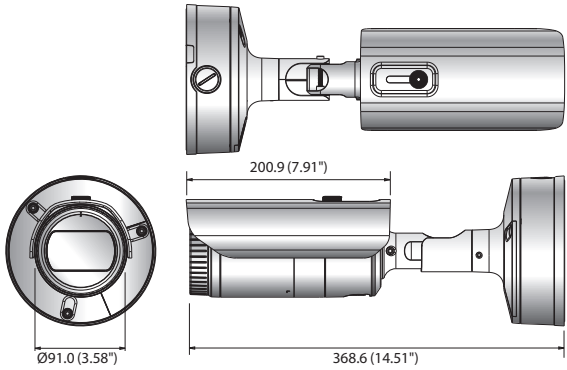


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- 3.7 ~ 9.4mm (2.5x) motorized varifocal lens
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 50m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



SBP-302PM

	XNO-8080R
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.07Lux (F1.2, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.7 ~ 9.4mm (2.5x) motorized varifocal
Max. Aperture Ratio	F1.2
Angular Field of View	H : 100.2° ~ 38.7° / V : 72.7° ~ 29.0° / D : 132.0° ~ 48.6°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
OPERATIONAL	
IR Viewable Length	50m (164.04ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Line out, Max output level	1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
G.726	16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication
Streaming Method	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Unicast / Multicast	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
NAS (Network Attached Storage), Local PC for instant recording	NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12
Non-plugin Webviewer	Non-plugin Webviewer
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
Plug-in Webviewer	Plug-in Webviewer
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
SmartViewer, SSM	SmartViewer, SSM
Central Management Software	SmartViewer, SSM
ENVIRONMENTAL	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
INGRESS PROTECTION / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 12.5W (12VDC), Max. 12.95W (PoE), Max. 14.5W (24VAC)
MECHANICAL	
Color / Material	Dark gray / Aluminum
Dimensions (WxH)	Ø91.0 x 368.6mm (Ø3.58" x 14.51") (Without sunshield)
Weight	2.18Kg (4.81lb)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XNO-8020R/8030R/8040R

5M Network IR Bullet Camera

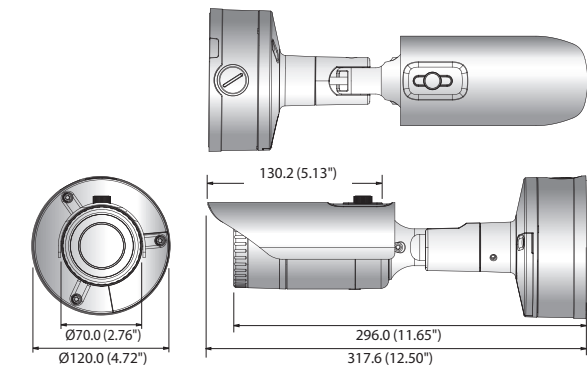


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- Built-in 3.7mm fixed lens (XNO-8020R)
4.6mm fixed lens (XNO-8030R)
7mm fixed lens (XNO-8040R)
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support
- IR viewable length 30m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)

Dimensions

Unit: mm (inch)



Accessories (Optional)



SBP-302PM

XNO-8020R/8030R/8040R	
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.16Lux (F1.6, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.7mm fixed (XNO-8020R), 4.6mm fixed (XNO-8030R), 7mm fixed (XNO-8040R)
Max. Aperture Ratio	F1.6
Angular Field of View	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)
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
OPERATIONAL	
IR Viewable Length	30m (98.43ft) Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color: Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view: 90° / 270° Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5VDC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3 (MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS (SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only SmartViewer, SSM

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-30°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH * Start up should be done at above -20°C (-4°F)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 9.3W (12VDC), Max. 10.3W (PoE)
MECHANICAL	
Color / Material	Dark gray / Aluminum
Dimensions (WxH)	Ø70.0 x 296.0mm (Ø4.72" x 11.65") (Without sunshield)
Weight	1.22Kg (2.69lb)
* Design and specifications are subject to change without notice.	

XND-8080R

5M Network IR Dome Camera

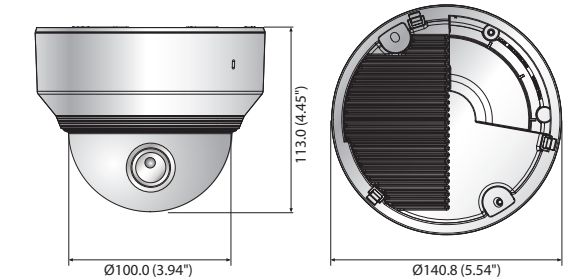


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- 3.9 ~ 9.4mm (2.4x) motorized varifocal lens
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 30m, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit: mm (inch)



Accessories (Optional)



XND-8080R	
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.07Lux (F1.3, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.9 ~ 9.4mm (2.4x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	H: 92.1° ~ 38.7° / V: 67.2° ~ 29.0° / D: 119.9° ~ 48.6°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m (98.43ft) Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color: Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view: 90° / 270° Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5VDC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3 (MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS (SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only SmartViewer, SSM

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 9W (12VDC), Max. 10W (PoE)
MECHANICAL	
Color / Material	Ivory / Plastic
Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
Weight	628g (1.38lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XND-8080RV

5M Network IR Dome Camera

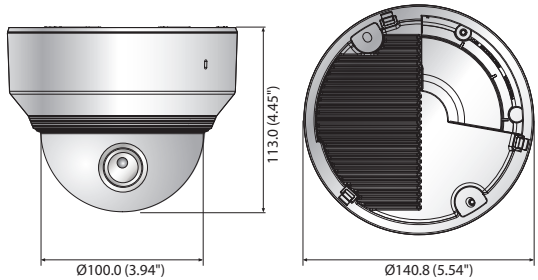


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- 3.9 ~ 9.4mm (2.4x) motorized varifocal lens
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 30m, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



XND-8080RV	
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.07Lux (F1.3, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.9 ~ 9.4mm (2.4x) motorized varifocal
Max. Aperture Ratio	F1.3
Angular Field of View	H : 92.1° ~ 38.7° / V : 67.2° ~ 29.0° / D : 119.9° ~ 48.6°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m (98.43ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
Audio Communication	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
IP	Bi-directional (2-way)
Protocol	IPv4, IPv6
Security	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Streaming Method	HTTPS(SSL) login authentication, Digest login authentication
Max. User Access	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Edge Storage	Unicast / Multicast
Application Programming Interface	20 users at unicast mode
Webpage Language	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek	
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	
Non-plugin Webviewer	
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	
Plug-in Webviewer	
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	
SmartViewer, SSM	

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 9W (12VDC), Max. 10W (PoE)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
Weight	732g (1.61lb)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XND-8020R/8030R/8040R

5M Network IR Dome Camera

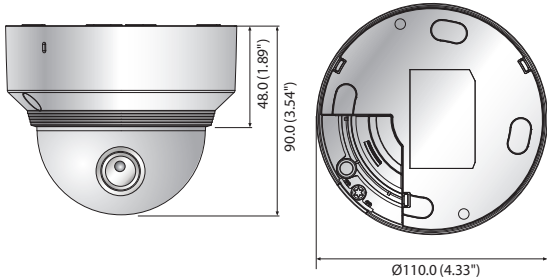


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- Built-in 3.7mm fixed lens (XND-8020R)
4.6mm fixed lens (XND-8030R)
7mm fixed lens (XND-8040R)
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support
- IR viewable length 30m, IK08
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



XND-8020R/8030R/8040R	
VIDEO	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096(H) x 2,094(V)
Effective Pixels	2,616(H) x 1,976(V)
Scanning System	Progressive Scan
Min. Illumination	Color : 0.16Lux (F1.6, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	3.7mm fixed (XND-8020R), 4.6mm fixed (XND-8030R), 7mm fixed (XND-8040R)
Max. Aperture Ratio	F1.6
Angular Field of View	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)
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m (98.43ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Compression Format	Line out, Max output level : 1Vrms
Audio Communication	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
IP	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Protocol	Bi-directional (2-way)
Security	IPv4, IPv6
Streaming Method	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Max. User Access	HTTPS(SSL) login authentication, Digest login authentication
Edge Storage	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Application Programming Interface	Unicast / Multicast
Webpage Language	20 users at unicast mode
SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform	
English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek	
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	
Non-plugin Webviewer	
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	
Plug-in Webviewer	
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	
SmartViewer, SSM	

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 8W (12VDC), Max. 9W (PoE)
MECHANICAL	
Color / Material	Ivory / Metal
Dimensions (WxH)	Ø110.0 x 90.0mm (Ø4.33" x 3.54")
Weight	380g(0.84lb)

* Design and specifications are subject to change without notice.

XNV-8080R

5M Vandal-Resistant Network IR Dome Camera

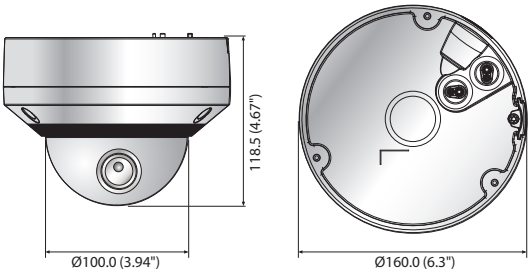


Key Features

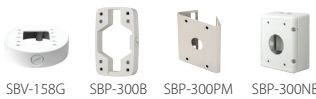
- Max. 5megapixel (2560 x 1920) resolution
- 3.9 ~ 9.4mm (2.4x) motorized varifocal lens
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 50m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



XNV-8020R/8030R/8040R

5M Vandal-Resistant Network IR Dome Camera

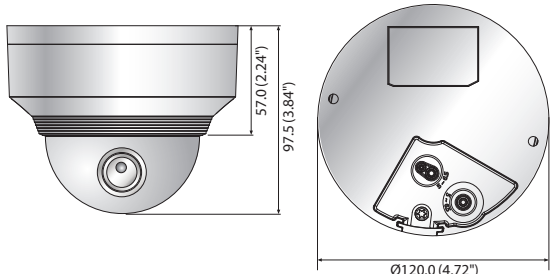


Key Features

- Max. 5megapixel (2560 x 1920) resolution
- Built-in 3.7mm fixed lens (XNV-8020R)
4.6mm fixed lens (XNV-8030R)
7mm fixed lens (XNV-8040R)
- Max. 30fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (120dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support
- IR viewable length 30m, IP67/IP66, IK10
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



		XNV-8020R/8030R/8040R
VIDEO		
Imaging Device		1/1.8" 6M CMOS
Total Pixels		3,096(H) x 2,094(V)
Effective Pixels		2,616(H) x 1,976(V)
Scanning System		Progressive Scan
Min. Illumination		Color : 0.16Lux (F1.6, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio		50dB
Video Out		CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS		
Focal Length (Zoom Ratio)		3.7mm fixed (XNV-8020R), 4.6mm fixed (XNV-8030R), 7mm fixed (XNV-8040R)
Max. Aperture Ratio		F1.6
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)
Min. Object Distance		0.4m (1.31ft)
Focus Control		Manual
Lens / Mount Type		Fixed / Board-in type
PAN / TILT / ROTATE		
Pan / Tilt / Rotate Range		0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL		
IR Viewable Length		30m (98.43ft)
		Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title		
		Day & Night Backlight Compensation Wide Dynamic Range Contrast Enhancement Digital Noise Reduction Digital Image Stabilization Defog Motion Detection Privacy Masking Gain Control White Balance Contrast LDC (Lens Distortion Correction) Electronic Shutter Speed Digital PTZ Flip / Mirror
		Auto (ICR) / Color / B/W / External / Schedule Off / BLC / HLC (Masking / Dimming), WDR 120dB SSDR (Off / On) SSNRV (2D+3D noise filter) (Off / On) Off / On Off / Auto (Input from fog detection) / Manual Off / On (8ea, 8point polygonal zones), Handover Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic Off / Low / Middle / High / Manual ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium) Level adjustment Off / On (5 levels with min / max) Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec) 24x, Digital PTZ (Preset, Group) Off / On, Hallway view : 90° / 270° Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
		Video & Audio Analytics
		Alarm I/O Alarm Triggers Alarm Events
		Input 1ea / Output 1ea Alarm input, Motion detection, Video & Audio analytics, Network disconnect File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
		Pixel Counter
		Support
NETWORK		
Ethernet		RJ-45 (10/100BASE-T)
Video Compression Format		H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG 2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Resolution		2560 x 1920, 2560 x 1440, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate		H.265 / H.264 : Max. 30fps at all resolutions, MJPEG : Max. 30fps
Smart Codec		Manual mode (Area-based : 5ea)
WiseStream II		Support
Video Quality Adjustment		H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method		H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability		Multiple streaming (Up to 10 profiles)
Audio In		Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out		Line out, Max output level : 1Vrms
Audio Compression Format		G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication		Bi-directional (2-way)
IP		IPv4, IPv6
Protocol		TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security		HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method		Unicast / Multicast
Max. User Access		20 users at unicast mode
Edge Storage		SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface		ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language		English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
		Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Web Viewer		
		SmartViewer, SSM
Central Management Software		
ENVIRONMENTAL		
Operating Temperature / Humidity		-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity		-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance		IP67, IP66, NEMA 4X / IK10
ELECTRICAL		
Input Voltage / Current		24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption		Max. 11.5W (12VDC), Max. 12.95W (PoE), Max. 14W (24VAC)
MECHANICAL		
Color / Material		Ivory / Aluminum
Dimensions (WxH)		Ø160.0 x 118.5mm (Ø6.3" x 4.67")
Weight		1.01Kg (2.23lb)
		* The latest product information / specification can be found at hanwha-security.com * Design and specifications are subject to change without notice.

Central Management Software		
ENVIRONMENTAL		
Operating Temperature / Humidity		-30°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH * Start up should be done at above -20°C (-4°F)
Storage Temperature / Humidity		-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance		IP67, IP66 / IK10
ELECTRICAL		
Input Voltage / Current		12V DC ±10%, PoE (IEEE802.3af)
Power Consumption		Max. 8W (12VDC), Max. 9W (PoE)
MECHANICAL		
Color / Material		Ivory / Metal
Dimensions (WxH)		Ø120.0 x 97.5mm (Ø4.72" x 3.84")
Weight		615g (1.36lb)
		* Design and specifications are subject to change without notice.

XNB-6000

2M Network Camera



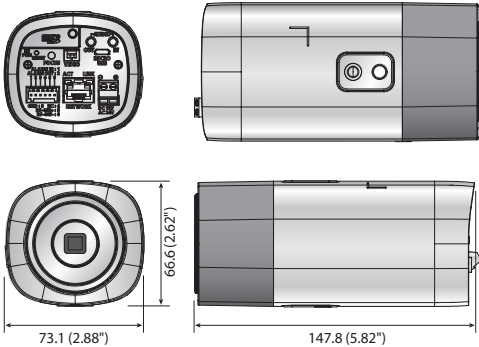
* Lens not included

Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 0.01Lux@F1.2 (Color), 0.001Lux@F1.2 (B/W)
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), P-Iris, Defog
- Digital image stabilization with built-in Gyro sensor
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



SHB-4300H/4300H1/ 4300H2/4300HP SHB-4200/4200H STB-400 use with STH-200 STB-4150V

XNB-6000

VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.01Lux (F1.2, 1/30sec), B/W : 0.001Lux (F1.2, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focus Control	Simple focus / Manual, Remote control via network, Button control (Manual, Simple focus)
Lens Type	Manual / DC auto iris, P-Iris
Mount Type	C / CS
OPERATIONAL	

Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On (Built-in Gyro sensor)
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Remote Control Interface	RS-485
RS-485 Protocol	Samsung-T/E, Pelco-P/D, Sungjin, Panasonic, Honeywell, AD, Vicon, GE, Bosch
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Fan / Heater	Off / On / Auto / Schedule via web viewer
Pixel Counter	Support

NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
Audio Communication	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
IP	Bi-directional (2-way)
Protocol	IPV4, IPV6
Security	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Streaming Method	HTTP(S) login authentication, Digest login authentication
Max. User Access	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Edge Storage	Unicast / Multicast
Application Programming Interface	20 users at unicast mode
Webpage Language	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Web Viewer	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox (49Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only

Central Management Software	SmartViewer, SSM
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (-14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 6.5W (12VDC), Max. 7.5W (PoE), Max. 8W (24VAC)
MECHANICAL	
Color / Material	Black, Ivory / Plastic
Dimensions (WxHxD)	73.1 x 66.6 x 147.8mm (2.88" x 2.62" x 5.82")
Weight	420g (0.93lb)

* The latest product information / specification can be found at hanwha-security.com

* Design and specifications are subject to change without notice.

XNO-6080R

2M Network IR Bullet Camera

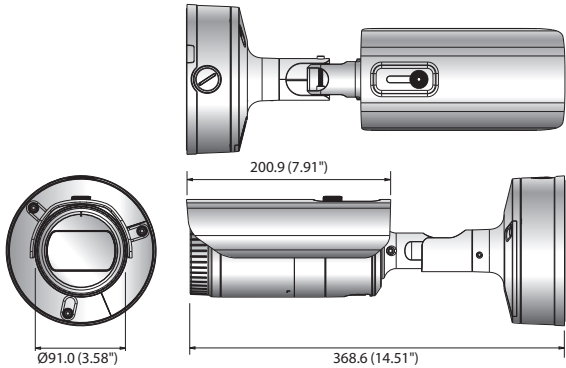


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 50m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



SBP-302PM

XNO-6080R

VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
OPERATIONAL	

IR Viewable Length	50m (164.04ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support

NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
Audio Communication	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
IP	Bi-directional (2-way)
Protocol	IPV4, IPV6
Security	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Streaming Method	HTTP(S) login authentication, Digest login authentication
Max. User Access	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Edge Storage	Unicast / Multicast
Application Programming Interface	20 users at unicast mode
Webpage Language	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Web Viewer	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only

Central Management Software	SmartViewer, SSM
ENVIRONMENTAL	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 12W (12VDC), Max. 12.95W (PoE), Max. 15W (24VAC)
MECHANICAL	
Color / Material	Dark gray / Aluminum
Dimensions (WxH)	Ø91.0 x 368.6mm (Ø3.58" x 14.51") (Without sunshield)
Weight	2.18Kg (4.81lb)

* The latest product information / specification can be found at hanwha-security.com

* Design and specifications are subject to change without notice.

XNO-6010R/6020R

2M Network IR Bullet Camera



XNO-6010R

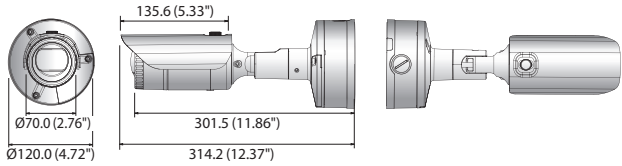
XNO-6020R

Key Features

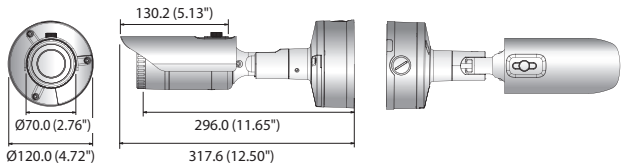
- Max. 2megapixel (1920 x 1080) resolution
- Built-in 2.4mm fixed lens (XNO-6010R)
4mm fixed lens (XNO-6020R)
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support
- 15m (XNO-6010R) / 30m (XNO-6020R), IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



XNO-6010R



XNO-6020R

Accessories (Optional)



SBP-302PM

	XNO-6010R/6020R
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.055Lux (F2.0, 1/30sec), B/W : 0Lux (IR LED on) (XNO-6010R) Color : 0.015Lux (F1.4, 1/30sec), B/W : 0Lux (IR LED on) (XNO-6020R)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.4mm fixed (XNO-6010R), 4mm fixed (XNO-6020R)
Max. Aperture Ratio	F2.0 (XNO-6010R), F1.4 (XNO-6020R)
Angular Field of View	H: 139.0° / V: 73.0° / D: 167.0° (XNO-6010R), H: 88.6° / V: 47.5° / D: 104.8° (XNO-6020R)
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type

OPERATIONAL	
IR Viewable Length	20m(65.61ft) (XNO-6010R) / 30m(98.43ft) (XNO-6020R)

Camera Title	- Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
--------------	---

Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°

Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
-------------------------	--

Alarm I/O	Input 1ea / Output 1ea
-----------	------------------------

Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
----------------	--

Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
--------------	---

Pixel Counter	Support
---------------	---------

NETWORK	
----------------	--

Ethernet	RJ-45 (10/100BASE-T)
----------	----------------------

Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
--------------------------	--

Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
------------	---

Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
----------------	---

Smart Codec	Manual mode (Area-based : 5ea)
-------------	--------------------------------

WiseStream II	Support
---------------	---------

Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
--------------------------	--

Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
------------------------	---

Streaming Capability	Multiple streaming (Up to 10 profiles)
----------------------	--

Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
----------	---

Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
-----------	--

Audio Compression Format	Line out, Max output level : 1Vrms
--------------------------	------------------------------------

Audio Communication	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
---------------------	--

IP	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
----	--

Protocol	Bi-directional (2-way)
----------	------------------------

Security	IPv4, IPv6
----------	------------

Streaming Method	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
------------------	---

Max. User Access	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
------------------	--

Edge Storage	Unicast / Multicast
--------------	---------------------

Application Programming Interface	20 users at unicast mode
-----------------------------------	--------------------------

Webpage Language	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
------------------	--

	NAS (Network Attached Storage), Local PC for instant recording
--	--

	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
--	---

	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
--	---

	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12
--	---

	Non-plugin Webviewer
--	----------------------

	- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
--	--

	Plug-in Webviewer
--	-------------------

	- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
--	---

	SmartViewer, SSM
--	------------------

ENVIRONMENTAL	
----------------------	--

Operating Temperature / Humidity	-30°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH
----------------------------------	---

Storage Temperature / Humidity	* Start up should be done at above -20°C (-4°F)
--------------------------------	---

Ingress Protection / Vandal Resistance	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
--	---

ELECTRICAL	IP67, IP66, NEMA 4X / IK10
-------------------	----------------------------

Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
-------------------------	--------------------------------

Power Consumption	Max. 8.8W (12VDC), Max 9.7W (PoE)
-------------------	-----------------------------------

MECHANICAL	
-------------------	--

Color / Material	Dark gray / Aluminum
------------------	----------------------

Dimensions (WxH)	Ø70 x 301.5mm (Ø2.76" x 11.87") XNO-6010R
------------------	---

	Ø70 x 296mm (Ø2.76" x 11.65") XNO-6020R (Without sunshield)
--	---

Weight	1.22Kg (2.69lb)
--------	-----------------

	* Design and specifications are subject to change without notice.
--	---

XND-6080

2M Network Dome Camera

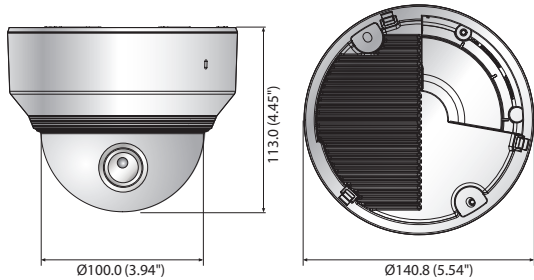


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XND-6080
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0.0015Lux (F1.4, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°

OPERATIONAL	
Off / On (Displayed up to 85 characters)	

Camera Title	- Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
--------------	---

Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°

Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
-------------------------	--

Alarm I/O	Input 1ea / Output 1ea
-----------	------------------------

Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
----------------	--

Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
--------------	---

Pixel Counter	Support
---------------	---------

NETWORK	
----------------	--

Ethernet	RJ-45 (10/100BASE-T)
----------	----------------------

Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
--------------------------	--

Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
------------	---

Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
----------------	---

Smart Codec	Manual mode (Area-based : 5ea)
-------------	--------------------------------

WiseStream II	Support
---------------	---------

Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
--------------------------	--

Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
------------------------	---

Streaming Capability	Multiple streaming (Up to 10 profiles)
----------------------	--

Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
----------	---

Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
-----------	--

Audio Compression Format	Line out, Max output level : 1Vrms
--------------------------	------------------------------------

Audio Communication	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
---------------------	--

IP	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
----	--

Protocol	Bi-directional (2-way)
----------	------------------------

Security	IPv4, IPv6
----------	------------

Streaming Method	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
------------------	---

Max. User Access	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
------------------	--

Edge Storage	Unicast / Multicast
--------------	---------------------

Application Programming Interface	20 users at unicast mode
-----------------------------------	--------------------------

Webpage Language	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
------------------	--

	NAS (Network Attached Storage), Local PC for instant recording
--	--

	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
--	---

	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
--	---

	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12
--	---

	Non-plugin Webviewer
--	----------------------

	- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
--	--

	Plug-in Webviewer
--	-------------------

	- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
--	---

	SmartViewer, SSM
--	------------------

ENVIRONMENTAL	
----------------------	--

Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
----------------------------------	---

Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
--------------------------------	---

Vandal Resistance	IK08
-------------------	------

ELECTRICAL	
-------------------	--

Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
-------------------------	--------------------------------

Power Consumption	Max. 6W (12VDC), Max. 6.5W (PoE)
-------------------	----------------------------------

MECHANICAL	
-------------------	--

Color / Material	Ivory / Plastic
------------------	-----------------

Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
------------------	-----------------------------------

Weight	610g (1.34lb)
--------	---------------

	* The latest product information / specification can be found at hanwha-security.com
--	--

	* Design and specifications are subject to change without notice.
--	---

XND-6080R

2M Network IR Dome Camera

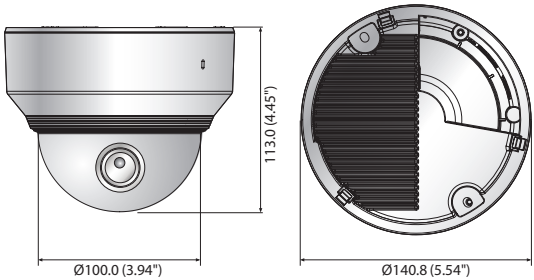


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 30m, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit: mm (inch)



Accessories (Optional)



XND-6080R	
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m (98.4ft)
Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution	
Camera Title	
Day & Night	
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification	
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
Audio Communication	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
IP	Bi-directional (2-way)
Protocol	IPv4, IPv6
TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour	
Security	HTTPS(SSL) login authentication, Digest login authentication
Streaming Method	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Max. User Access	Unicast / Multicast
Edge Storage	20 users at unicast mode
Application Programming Interface	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
Webpage Language	NAS (Network Attached Storage), Local PC for instant recording
ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform	
English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek	
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	
Non-plugin Webviewer	
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	
Plug-in Webviewer	
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	
SmartViewer, SSM	

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 9W (12VDC), Max. 10W (PoE)
MECHANICAL	
Color / Material	Ivory / Plastic
Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
Weight	624g (1.38lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XND-6080RV

2M Network IR Dome Camera

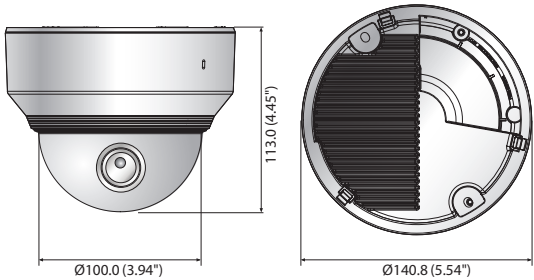


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 30m, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit: mm (inch)



Accessories (Optional)



XND-6080RV	
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m (98.4ft)
Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution	
Camera Title	
Day & Night	
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification	
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms
Audio Out	Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz
Audio Communication	G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
IP	Bi-directional (2-way)
Protocol	IPv4, IPv6
TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour	
Security	HTTPS(SSL) login authentication, Digest login authentication
Streaming Method	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Max. User Access	Unicast / Multicast
Edge Storage	20 users at unicast mode
Application Programming Interface	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot)
Webpage Language	NAS (Network Attached Storage), Local PC for instant recording
ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform	
English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek	
Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12	
Non-plugin Webviewer	
- Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only	
Plug-in Webviewer	
- Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only	
SmartViewer, SSM	

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 9W (12VDC), Max. 10W (PoE)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
Weight	724g (1.60lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XND-6080V

2M Network Dome Camera

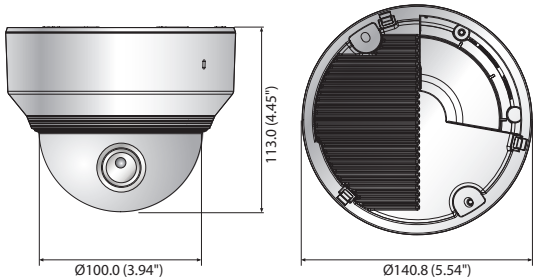


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support, IK08
- LDC support (Lens Distortion Correction)
- PoE / 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XND-6080V
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0.0015Lux (F1.4, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only
Web Viewer	Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Central Management Software	
SmartViewer, SSM	

ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 6W (12VDC), Max. 6.5W (PoE)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø140.8 x 113.0mm (Ø5.54" x 4.45")
Weight	714g (1.57lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XND-6010

2M Network Dome Camera

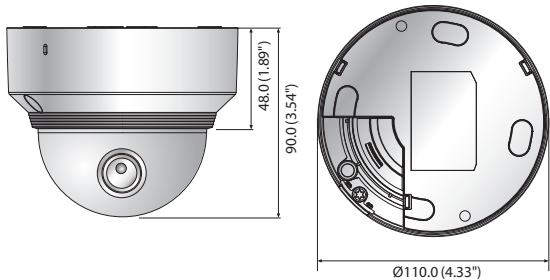


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- Built-in 2.4mm fixed lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support, IK08
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XND-6010
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.055Lux (F2.0, 1/30sec), B/W : 0.0055Lux (F2.0, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.4mm fixed
Max. Aperture Ratio	F2.0
Angular Field of View	H : 139.0° / V : 73.0° / D : 167.0°
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only
Web Viewer	Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Central Management Software	
SmartViewer, SSM	

ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 5.5W (12VDC), Max. 6W (PoE)
MECHANICAL	
Color / Material	Ivory / Metal
Dimensions (WxH)	Ø110.0 x 90.0mm (Ø4.33" x 3.54")
Weight	365g (0.80lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XND-6020R

2M Network Dome Camera

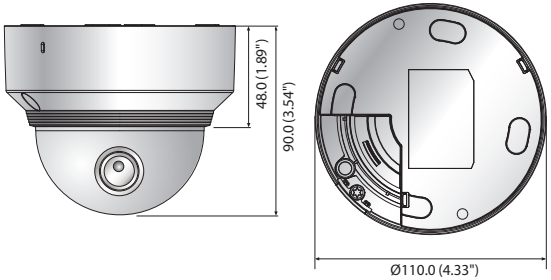


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- Built-in 4mm fixed lens
- Max. 60fps@all resolutions (H.265/H.264)
- IR Viewable length : 30m
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support, IK08
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



XND-6020R	
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015 lux(F1.4, 1/30sec), B/W : 0Lux(IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	4mm fixed
Max. Aperture Ratio	F1.4
Angular Field of View	H: 88.6°, V: 47.5°, D: 104.8°
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m(98.43ft) Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Frame rate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Max output level : 1Vrms Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Web Viewer	SmartViewer, SSM

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-10°C ~ +55°C (-14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Vandal Resistance	IK08
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 8W (12VDC), Max. 9W (PoE)
MECHANICAL	
Color / Material	Ivory / Metal
Dimensions (WxH)	Ø110xH90mm(Ø4.33" x 3.54")
Weight	380g (0.84lb)
* The latest product information / specification can be found at hanwha-security.com	
* Design and specifications are subject to change without notice.	

XNV-6080

2M Vandal-Resistant Network Dome Camera

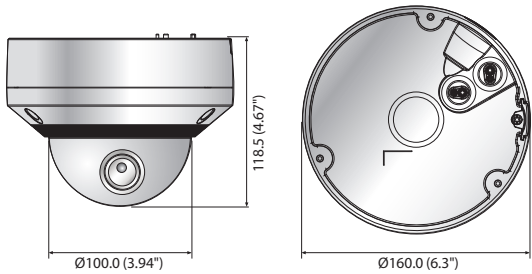


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



XNV-6080	
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0.0015Lux (F1.4, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Frame rate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Web Viewer	SmartViewer, SSM

Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 7W (12VDC), Max. 7.8W (PoE), Max. 8.2W (24VAC)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø160.0 x 118.5mm (Ø6.3" x 4.67")
Weight	985g (2.17lb)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XNV-6080R

2M Vandal-Resistant Network IR Dome Camera

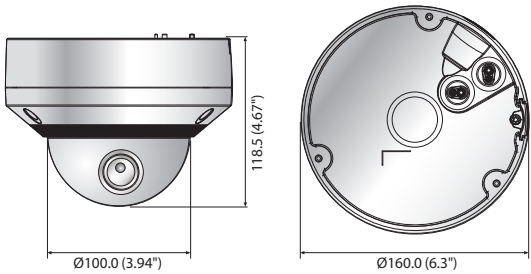


Key Features

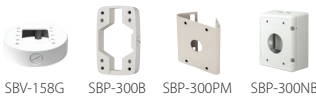
- Max. 2megapixel (1920 x 1080) resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB)
- Hallway view, WiseStream II support
- IR viewable length 50m, IP67/IP66, NEMA 4X, IK10
- LDC support (Lens Distortion Correction)
- PoE / 24V AC, 12V DC, Bi-directional audio support

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XNV-6080R
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015Lux (F1.4, 1/30sec), B/W : 0Lux (IR LED on)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4(Wide) ~ F3.6(Tele)
Angular Field of View	H : 119.5° ~ 27.9° / V : 62.8° ~ 15.7° / D : 142.1° ~ 32.0°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Simple focus (Motorized V/F) / Manual, Remote control via network (Manual, Simple focus)
Lens / Mount Type	DC auto iris, P-Iris / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	50m (164.04ft)
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour HTTPS(SSL) login authentication, Digest login authentication
Security	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
Web Viewer	Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66, NEMA 4X / IK10
ELECTRICAL	
Input Voltage / Current	24V AC ±10%, 12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 11.5W (12VDC), Max. 12.95W (PoE), Max. 14W (24VAC)
MECHANICAL	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø160.0 x 118.5mm (Ø6.3" x 4.67")
Weight	995g (2.19 lb)

* The latest product information / specification can be found at hanwha-security.com
* Design and specifications are subject to change without notice.

XNV-6010

2M Vandal-Resistant Network Dome Camera

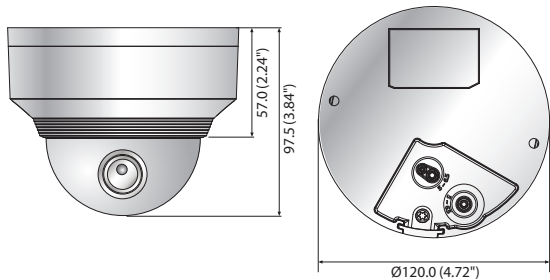


Key Features

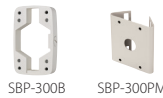
- Max. 2megapixel (1920 x 1080) resolution
- Built-in 2.4mm fixed lens
- Max. 60fps@all resolutions (H.265/H.264)
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support, IP67/IP66, IK10
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XNV-6010
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.05Lux (F2.0, 1/30sec), B/W : 0.0055Lux (F2.0, 1/30sec)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	2.4mm fixed
Max. Aperture Ratio	F2.0
Angular Field of View	H : 139.0° / V : 73.0° / D : 167.0°
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90° / 270°
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC / SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : Sea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5V DC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour HTTPS(SSL) login authentication, Digest login authentication
Security	IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49 (Window 64bit only), Apple Safari 9 * Mac OS X only
Web Viewer	Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Central Management Software	
ENVIRONMENTAL	
Operating Temperature / Humidity	-30°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH * Start up should be done at above -20°C (-4°F)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66 / IK10
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 5.5W (12VDC), Max. 6W (PoE)
MECHANICAL	
Color / Material	Ivory / Metal
Dimensions (WxH)	Ø120.0 x 97.5mm (Ø4.72" x 3.84")
Weight	625g (1.38lb)

* Design and specifications are subject to change without notice.

XNV-6020R

2M Vandal-Resistant Network Dome Camera

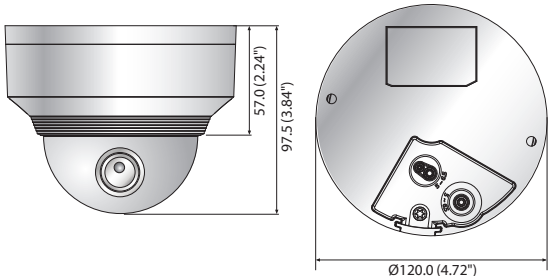


Key Features

- Max. 2megapixel (1920 x 1080) resolution
- Built-in 4mm fixed lens
- Max. 60fps@all resolutions (H.265/H.264)
- IR Viewable length : 30m
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Day & Night (ICR), WDR (150dB), Defog
- Loitering, Directional detection, Fog detection, Audio detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management, Tampering
- Motion detection, Handover
- SD/SDHC/SDXC memory slot (Max. 512GB), PoE / 12V DC
- Hallway view, WiseStream II support, IP67/IP66, IK10
- LDC support (Lens Distortion Correction)

Dimensions

Unit : mm (inch)



Accessories (Optional)



	XNV-6020R
VIDEO	
Imaging Device	1/2.8" 2M CMOS
Total Pixels	1,945(H) x 1,109(V) 2.16M
Effective Pixels	1,945(H) x 1,097(V) 2.13M
Scanning System	Progressive Scan
Min. Illumination	Color : 0.015 lux(F1.4, 1/30sec), B/W : 0Lux(IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0Vpp / 75Ω composite, 720 x 480(N), 720 x 576(P), for installation USB : micro USB type B, 1280 x 720 for installation
LENS	
Focal Length (Zoom Ratio)	4mm Fixed
Max. Aperture Ratio	F1.4
Angular Field of View	H: 88.6°, V: 47.5°, D: 104.8°
Min. Object Distance	0.4m (1.31ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board-in type
PAN / TILT / ROTATE	
Pan / Tilt / Rotate Range	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
OPERATIONAL	
IR Viewable Length	30m(98.43ft) Off / On (Displayed up to 85 characters) - W/W : English / Numeric / Special characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
Camera Title	
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	Off / BLC / HLC (Masking / Dimming), WDR
Wide Dynamic Range	150dB
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNRV (2D+3D noise filter) (Off / On)
Digital Image Stabilization	Off / On
Defog	Off / Auto (Input from fog detection) / Manual
Motion Detection	Off / On (8ea, 8point polygonal zones), Handover
Privacy Masking	Off / On (32ea, Polygonal) - Color : Grey / Green / Red / Blue / Black / White, Mosaic
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (Included mercury & Sodium)
Contrast	Level adjustment
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)
Digital PTZ	24x, Digital PTZ (Preset, Group)
Flip / Mirror	Off / On, Hallway view : 90°/270° Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter / Exit, (Dis)Appear, Audio detection, Face detection, Motion detection, Digital auto tracking, Sound classification, Heatmap, People counting, Queue management
Video & Audio Analytics	
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm input, Motion detection, Video & Audio analytics, Network disconnect
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output, DPTZ preset
Pixel Counter	Support
NETWORK	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265 / H.264 (MPEG-4 part 10/AVC) : Main / Baseline / High, MJPEG
Resolution	1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Framerate	H.265 / H.264 : Max. 60fps at all resolutions, MJPEG : Max. 30fps
Smart Codec	Manual mode (Area-based : 5ea)
WiseStream II	Support
Video Quality Adjustment	H.265 / H.264 : Target bitrate level control, MJPEG : Target bitrate level control
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Selectable (Mic in / Line in), Supply voltage : 2.5VDC (4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out, Max output level : 1Vrms
Audio Compression Format	G.711 u-law/G.726 selectable, G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 8/16/32/48KHz
Audio Communication	Bi-directional (2-way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) login authentication, Digest login authentication IP address filtering, User access log, 802.1X authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at unicast mode
Edge Storage	SD/SDHC/SDXC 2slot (Up to 512GB) - Continuous recording (1st slot to 2nd slot) NAS (Network Attached Storage), Local PC for instant recording
Application Programming Interface	ONVIF profile S/G, SUNAPI (HTTP API), Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 54, MS Edge 38, Mozilla Firefox 49(Window 64bit only), Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Apple Safari 9 * Mac OS X only
Central Management Software	
SmartViewer, SSM	
ENVIRONMENTAL	
Operating Temperature / Humidity	-30°C ~ +55°C (-22°F ~ +131°F) / Less than 90% RH * Start up should be done at above -20°C (-4°F)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP67, IP66 / IK10
ELECTRICAL	
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af)
Power Consumption	Max. 8W(12VDC), Max. 9W(PoE)
MECHANICAL	
Color / Material	Ivory / Metal
Dimensions (WxH)	Ø120.0 x 97.5mm (Ø4.72" x 3.84")
Weight	615g (1.36lb)

* Design and specifications are subject to change without notice.