



Network

Bullet

PNO-A9311R

4K AI IR Bullet Camera



Key Features

- Maximum 4K resolution
- 6.91~214.7mm (31x) zoom
- IR viewable length 70m(229.66ft)
- Color: 0.075Lux(F1.36, 1/30sec, 30IRE) / BW: 0.0075Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on)
- Day & Night(ICR), WDR(120dB), WiseNR II (Using AI engine), prefer shutter
- H.265, H.264, MJPEG codec, WiseStream II, WiseStreamIII (Using AI engine)
- Object Classification, Attributes and BestShot
- Vehicle counting, Crowd counting, Slip & Fall detection
- Reinforced durability (IP66/IP67, IK10, NEMA4X)
- ONVIF Profile S/G/T/M, SUNAPI(HTTP API), Wisenet open platform
- Next level cybersecurity (TPM with FIPS 140-2 level2)

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Specifications

Video	
Imaging Device	1/1.8" CMOS
Resolution	3840x2160, 3072x1728, 2592x1944, 2688x1520, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800 x 600, 800 x 448, 720 x 576, 720x480, 640x480, 640x360
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps
Min. Illumination	Color: 0.075Lux(F1.36, 1/30sec, 30IRE) BW: 0.0075Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation
Lens	
Focal Length (Zoom Ratio)	6.91~214.7mm (31x) motorized varifocal
Max. Aperture Ratio	F1.36(Wide)~F4.6(Tele)
Angular Field of View	H: 60.92°(Wide)~2.2°(Tele) V: 35.26°(Wide)~1.24°(Tele) D: 69.18°(Wide)~2.52°(Tele)
Min. Object Distance	3m(9.84ft)
Focus Control	Simple focus
Lens Type	P iris
Operational	
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SSDR
Wide Dynamic Range	120dB
Digital Noise Reduction	WiseNR II (using AI engine) SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)
Motion Detection	8ea, polygonal zones
Privacy Masking	3ea, rectangle zones - Color: Gray/Black/White
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (1/5~1/12,000sec) Auto prefer shutter control based on AI engine
Video Rotation	Flip, Mirror, Hallway view(90-/270-)

Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color) Support BestShot per object Analytics events based on AI engine - Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection Analytics events - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) Support WiseDetector for Adding custom objects *Some of the video analytics only works with people and vehicle detection
Business Intelligence	People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine
Alarm I/O	2 configurable I/O ports, DC 12V output(Max. 50mA)
Alarm Triggers	Analytics, Network disconnect, Alarm input, App event, Time schedule, MQTT subscription
Alarm Events	When alarm trigger occurred - File upload(image): e-mail/FTP/SFTP - Notification: e-mail - Recording: SD/SDHC/SDXC or NAS recording at event triggers - Alarm output - Handover: PTZ preset, send message by HTTP/HTTPS/TCP - Audio clip playback(WAV) - MQTT: publication
Audio In	Selectable(mic in/line in)
Audio Out	Line out
Light Type	IR LED (850nm)
IR Viewable Length	WiseIR 70m(229.66ft)

Network	
Ethernet	Metal shielded RJ-45(10/100/1000 BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG
Audio Compression	G.711 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz
Smart Codec	Manual(5ea area), WiseStream II , WiseStreamIII(using AI engine)
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 6 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast), CDP, MQTT
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform WiseAI application included Oncloud edge recording, compatible with Hanwha Vision's Micro SD cards up to 1TB

Security	
OS / Firmware Protect	Encrypted Firmware, Secure boot, Signed Firmware
User authentication	Digest Authenticaon, Prevent brute-force attack
Network authentication	IEEE 802.1X (EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication	HTTPS, WSS (WebSocket Secure)
Access Control	IP-based access control
Data Protect	Encryption Credentials, Encrypt compress for live recording file
Audit	Access / System / Event Log management

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

Hanwha Vision is formerly known as Hanwha Techwin.

Device ID	Device certificate (Hanwha Techwin Root CA)
Secure Storage	TPM, SDCard partition encrypt
Security Certificate	TPM with FIPS 140-2 level 2

General

Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 512GB(256GBx2)
Memory	4096MB RAM, 1024MB Flash

Environmental & Electrical

Operating Temperature / Humidity	-40°C ~ +55°C(-40°F ~ +131°F) / 0~100% RH(condensing) , Humidity control /w Air vent * Start up should be done at above -30°C
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH
Certification	IP66/IP67, IK10, NEMA4X
Input Voltage	PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE+: Max 25.5W, typical 14.0W 12VDC: Max 24.0W, typical 12.7.W

Mechanical

Color / Material	White / Aluminum Hard-coated window
RAL Code	RAL9003
Product Dimensions / Weight	ø136.2x358.7mm(ø5.36x14.12")(Without sunshield), 3200g(7.05lb) * backbox: ø160mm(ø6.30")
Compatible Conduit hole / Gangbox	19.1mm(3/4")(M25) single, double, 4" octagon, 4" square

Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A ICES-3(A)/NMB-3(A) CE/UKCA - EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3 VCCI CISPR 32 Class A RCM AS/NZS CISPR 32 Class A
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC/EN 62471
Environment	IEC/EN 63000 IEC/EN 60529 IP66/67, IEC/EN 62262 IK10

DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	Wide: 130.6m(428.4ft) / Tele: 4,000m(13,122ft)
Observe (63PPM/ 19PPF)	Wide: 52.2m(171.4ft) / Tele: 1600m(5,249ft)
Recognize (125PPM/ 38PPF)	Wide: 26.1m(85.7ft) / Tele: 800m(2,625ft)
Identify (250PPM/ 76PPF)	Wide: 13.1m(42.8ft) / Tele: 400m(1,312ft)

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CAD

Unit:mm [inch]

