



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	Size	1/1.8"
	Type	CMOS
Resolution	3840x2160, 3072x1728, 2688x1520, 2592x1944, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360	
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)
	MJPEG	30fps
Min. Illumination (Lux)	Color(1/30sec, 30IRE)	0.075
	BW(1/30sec, 30IRE)	0.0075
Video Out	CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B	

### Lens

Focal Length (mm)	6.91~214.7	
Zoom Ratio	Optical	31x
Max Aperture Ratio (F number)	Wide	1.36
	Tele	4.6
Angular Field of View	Horizontal	60.92°~2.2°
	Vertical	35.26°~1.24°
	Diagonal	69.18°~2.52°
Min. Object Distance	3m(9.84ft)	
Focus Control	Simple focus	
Lens Type	P iris(IR corrected)	

### Operational

Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SDR
Wide Dynamic Range (dB)	120
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)

## Operational

<b>Motion Detection</b>	Quantity	8ea
	Shape	8point Polygonal zones
<b>Privacy Masking</b>	Quantity	3ea
	Shape	Rectangular zones
	Color / Option	Gray, Black, White
<b>Gain Control</b>		Low, Middle, High
<b>White Balance</b>		ATW, AWC, Manual, Indoor, Outdoor
<b>LDC</b>		Support
<b>Electronic Shutter</b>	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	1/5~1/12,000sec
<b>Video Rotation</b>		Flip, Mirror, Hallway view(90°/270°)
<b>Alarm Interface</b>	In/Out	2 configurable I/O ports
	Others	12VDC output
<b>Alarm Triggers</b>		Analytics, Network disconnect, Alarm input, App event, Time schedule, MQTT subscription
<b>Alarm Events When Alarm Trigger Occurred</b>		File upload(image): e-mail/FTP, 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, MQTT: publication
<b>Audio In</b>		Selectable(mic in/line in)
<b>Audio Out</b>		Line out
<b>Light Type</b>		IR LED
<b>Light Viewable Length</b>	IR	WiseIR 70m(229.66ft)
<b>IR Wavelength</b>		850nm

## Analytics

<b>Classified Object Type</b>		Person, Face, Vehicle, License plate
<b>Attributes</b>	Person	Upper/Lower clothes color, Gender, Bag
	Vehicle	Type(car, bus, truck, motorcycle, bicycle), Color
	Face	Age, Gender, Face mask, Glasses
<b>Thumbnail</b>		BestShot
<b>Analytics Events</b>	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
	Normal	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear), WiseDetector for adding custom objects
<b>Business Intelligence</b>	Based on AI Engine	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting

## Network

<b>Ethernet</b>	Metal shielded RJ-45(10/100/1000BASE-T)
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## Network

<b>Video Compression</b>		H.265/H.264: Main/High, MJPEG
<b>Audio Compression</b>		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
<b>Smart Codec</b>		Manual, WiseStreamIII
<b>Bitrate Control</b>		H.265/H.264: CBR or VBR, MJPEG: VBR
<b>Streaming</b>	Unicast	Up to 6 users
	Multicast	Support
	Multiple Streaming	Up to 6 profiles
<b>Protocol</b>		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), MQTT
<b>Application Programming Interface</b>	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
<b>Direct Cloud Connection</b>		Support

## Security

<b>OS / Firmware Protect</b>	Encrypted firmware, Secure boot, Signed firmware
<b>User authentication</b>	Digest authentication, Prevent brute-force attack
<b>Network authentication</b>	IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
<b>Secure Communication</b>	HTTPS, WSS(WebSocket Secure), SRTP
<b>Access Control</b>	IP-based access control
<b>Data Protect</b>	Encryption credentials, Encrypt compress for live recording file export
<b>Audit</b>	Access / System / Event Log management
<b>Device ID</b>	Device certificate(Hanwha Vision Root CA)
<b>Secure Storage</b>	TPM(Trusted platform module), SDcard partition encrypt(AES-256)
<b>Security Certificate</b>	TPM 2.0 with FIPS 140-2 level2

## General

<b>Memory</b>	RAM	4GB
	Flash	1GB
<b>Edge Storage</b>	Micro SD/SDHC/SDXC	Max. 256GB x 2slot(Total 512GB)

## Environmental & Electrical

<b>Operating Condition</b>	Temperature	-40°C~+55°C(-40°F~+131°F)
	Humidity	0~100% RH(condensing)
	Others	Start up should be done at above -30°C, Humidity control with AIR vent
<b>Storage Condition</b>	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
<b>Input Voltage</b>		PoE+(IEEE802.3at, Class4), 12VDC

### Environmental & Electrical

Power Consumption	PoE	Max 25.5W, typical 14.0W
	12VDC	Max 24.0W, typical 12.7.W

### Mechanical

Color	White
Material	Aluminum
RAL Code	RAL9003
Product Dimensions	ø136.2x358.7mm(ø5.36x14.12")(Without sunshield)
Product Weight	3,200g(7.05lb)
Compatible Conduit Hole	19.1mm(3/4")(M25)
Compatible Gang Box	Single, Double, 4" Octagon, Square

### Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), CE/UKCA - EN55032 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 62471
Environment	IEC/EN 63000, IEC 60529 IP66, IEC 60529 IP67, IEC 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)

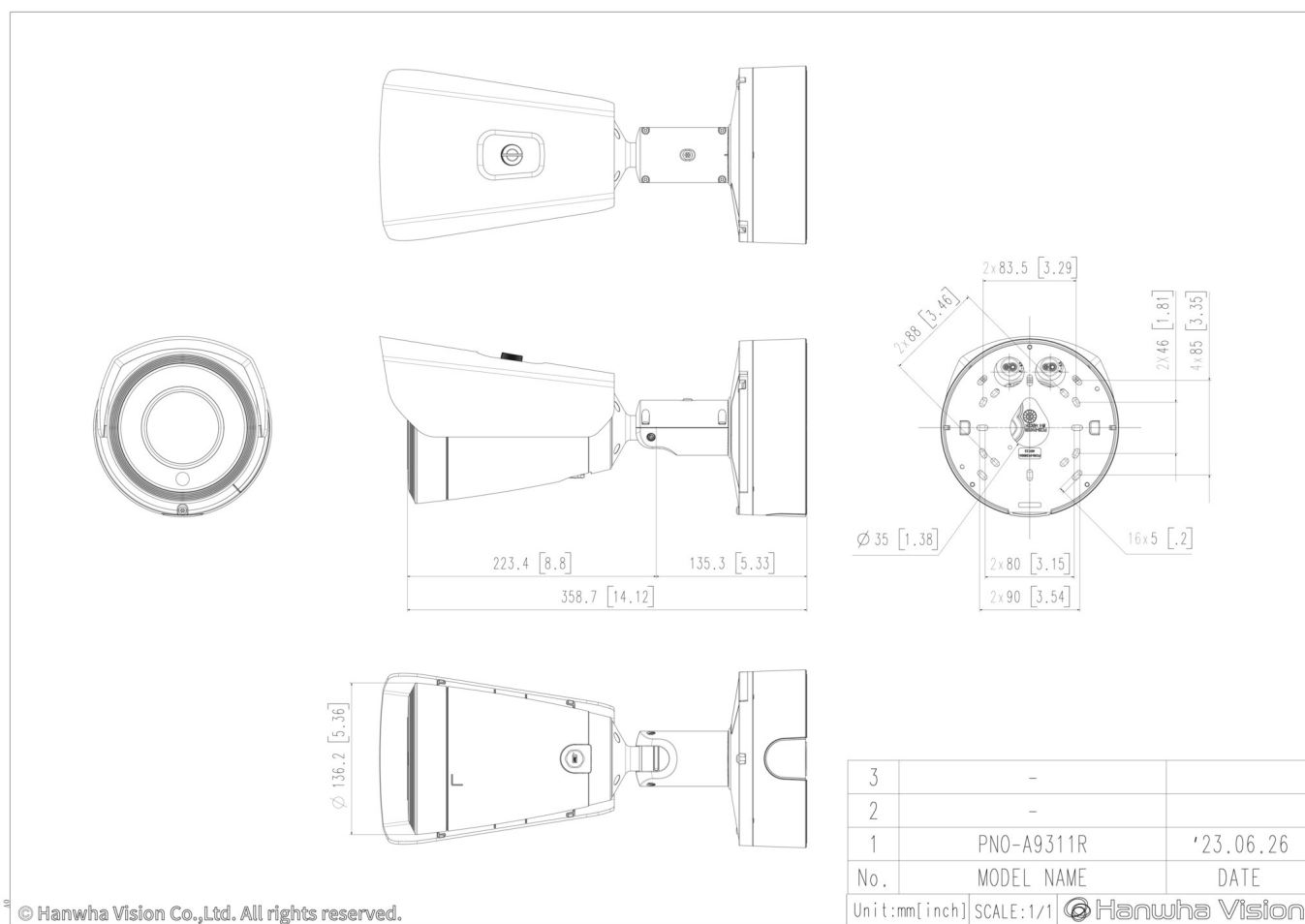
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CAD

Unit: mm [inch]



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