



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	1280x720, 1280x1024, 720x480, 1280x960, 720x576, 1920x1080, 640x360, 640x480, 2688x1520, 800x600, 800x448, 2048x1536, 3840x2160, 2560x1440, 1600x1200, 1024x768, 3072x1728, 2592x1944	
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	SSDR, WDR, BLC
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

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

Analytics

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

Network

Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG

Network

Audio Compression		AAC-LC: 48Kbps at 16KHz, G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps, G.711 u-law /G.726 selectable, G.726(ADPCM) 8KHz, G.711 8KHz
Smart Codec		WiseStreamIII, Manual
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 6 users
	Multicast	Support
	Multiple Streaming	Up to 6 profiles
Protocol		FTP, RTP(UDP), IPv4, HTTPS, NTP, TCP/IP, ARP, DHCP, RTCP, IPv6, UDP/IP, Bonjour, DNS, SNMPv1/v2c/v3(MIB-2), RTP(TCP), SSL/TLS, QoS, SMTP, DDNS, IGMP, HTTP, UPnP, LLDP, MQTT, RTSP, ICMP, SRTP(TCP, UDP Unicast)
Application Programming Interface	ONVIF	M, T, S, G
	Others	Hanwha Vision Open Platform, SUNAPI(HTTP API)
Direct Cloud Connection		Support

Security

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

General

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

Environmental & Electrical

Operating Condition	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
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		12VDC, PoE+(IEEE802.3at, Class4)

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	Square, 4" Octagon, Single, Double

Certifications & Standards

EMC	RCM AS-NZS CISPR 32 Class A, VCCI CISPR 32 Class A, ICES-3(A)/NMB-3(A), FCC 47 CFR 15 Subpart B Class A, CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC 62471
Environment	IEC 60529 IP67, IEC/EN 63000, IEC 60529 IP66, 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)

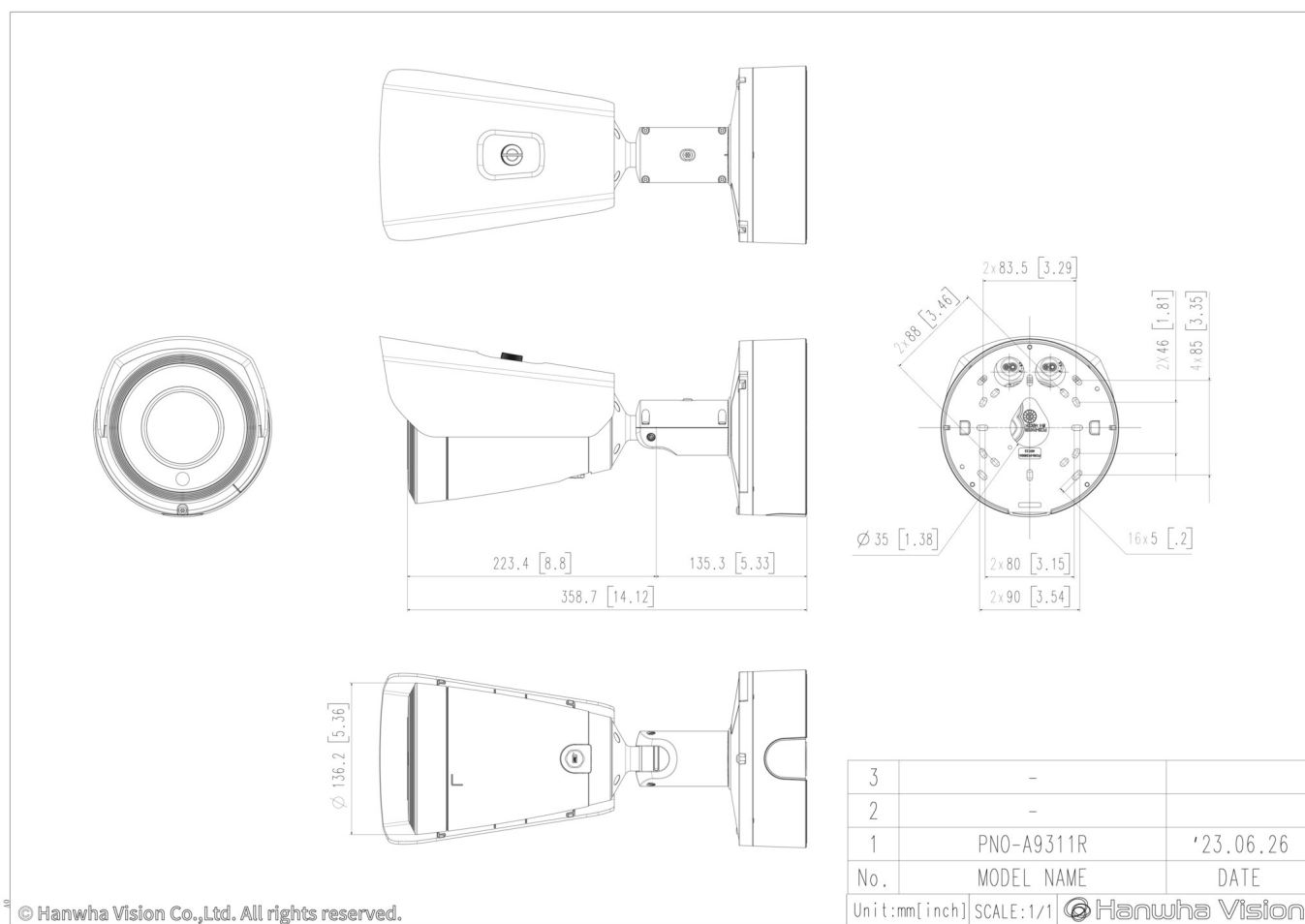
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CAD

Unit: mm [inch]



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