

Network | Bullet

PNO-A9311RLP

4K 31x Zoom LPR/ANPR/MMCR IR Bullet Camera

Key Features

- 4K Image Resolution
- 6.91~214.7mm Focal Length
- 70m IR Length
- IP66, IP67, IK10 Rated

• 6.91~214.7mm (31x) zoom
• IR viewable length 70m(229.66ft)
• Reinforced durability (IP66/IP67, IK10, NEMA4X)
• FoV - H: 60.92°~2.2°/ V: 35.26°~1.24° / D: 69.18°~2.52°
• Wisenet Road AI application (Pre-installed)
- CNN (Convolutional Neural Network) AI with improved accuracy in challenging conditions
- License/Number Plate Recognition
- Make/Model/Color Recognition
- Black/White Notification
- SmartSearch (LP/NP, Country, brand, model, color, date)

※ Specifications require Road AI App version v7.3532 or higher

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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. Preview and installation ONLY. Requires WiFi dongle.

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, SSDR
Wide Dynamic Range (dB)	120
Digital Noise Reduction	SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)

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Operational

Motion Detection	Quantity	8ea
	Shape	8point Polygonal zones
Privacy Masking	Quantity	3ea
	Shape	Rectangular zones
	Color / Option	Gray, Black, White
Gain Control		Low, Middle, High
White Balance		ATW, AWC, Manual, Indoor, Outdoor
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker
	Speed Range	1/5~1/12,000sec
Video Rotation		Flip, Mirror, Hallway view(90°/270°)
Alarm Interface	In/Out	2 configurable I/O ports
	Others	12VDC output
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, Notification: e-mail,Alarm output, Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback, MQTT: publication,NAS recording at event triggers
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

Network

Ethernet		Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression		H.265: Main, 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, WiseStream II
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		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast), MQTT

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Network

Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform

Security

OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
User authentication	Digest authentication, 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 export
Audit	Access / System / Event Log management
Device ID	Device certificate(Hanwha Vision Root CA)
Secure Storage	TPM(Trusted platform module)
Security Certificate	TPM 2.0 with FIPS 140-2 level2, TPM 2.0 with FIPS 140-2 level2

General

Memory	RAM	4GB
	Flash	1GB
Edge Storage	Micro SD/SDHC/SDXC	1slot (32GB card preinstalled) dedicated to strong LPR images from Wisenet Road AI app only (not for video recording)

Environmental & Electrical

Operating Condition	Temperature	-40°C~+55°C(-40°F~+131°F)
	Humidity	0~90% RH(non-condensing)
	Others	Start up should be done at above -30°C
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE	PoE+: Max 25.5W, typical 14.0W
	12VDC	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	3200g(7.05lb)
Compatible Conduit Hole	19.1mm(3/4")(M25)
Compatible Gang Box	Single, Double, 4" Octagon, Square

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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	1,600m(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)

Wisenet Road AI LPR/ANPR/MMCR

App Type		CNN (Convolutional Neural Network) AI
LPR Usage Condition	NA	City Traffic
	EU	City Traffic
Speed Description by Region	NA	High Speed
	EU	High Speed
Lane Coverage_NA	1 Lane	3.6m/12ft wide (with built in IR)
	2 Lanes	8.1m/26ft wide (with built in IR)
Lane Coverage_EU	1 Lane	3.6m/12ft wide (with built in IR)
	2 Lanes	8.1m/26ft wide (with built in IR)
	3 Lanes	16.2m/53ft wide (with built in IR)
Plate Capture Resolution_NA	1 Lane	4K
	2 Lanes	4K
Plate Capture Resolution_EU	1 Lane	4K
	2 Lanes	4K
	3 Lanes	4K
Speed Limit_NA	1 Lane	Up to 250km/h (155mph)
	2 Lanes	Up to 160km/h (99mph)
Speed Limit_EU	1 Lane	Up to 250km/h (155mph)
	2 Lanes	Up to 200km/h (124mph)
	3 Lanes	Up to 150km/h (93mph)

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Wisenet Road AI LPR/ANPR/MMCR

Min. Forward Distance_NA	1 Lane	13m (42.6ft)
	2 Lanes	33m (108.2ft)
Min. Forward Distance_EU	1 Lane	7m (22.9ft)
	2 Lanes	20m (65.6ft)
	3 Lanes	33m (108.2ft)
Max. Forward Distance_NA	1 Lane	70m (229.6ft)
	2 Lanes	70m (229.6ft)
Max. Forward Distance_EU	1 Lane	70m (229.6ft)
	2 Lanes	70m (229.6ft)
	3 Lanes	70m (229.6ft)
Max. Horizontal Angle by Region	NA	30° for highway, 45° for traffic observation
	EU	30° for highway, 45° for traffic observation
Max. Vertical Angle by Region	NA	30°
	EU	30°
Vehicle Recognition		Make: 100+ makes Model: 4700+ models Color: 11 colors
Available Countries		Albania, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Greece, Germany, Hungary, Ireland, Iceland, Italy, Lithuania, Luxembourg, Latvia, Montenegro, North Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Slovakia, Spain, Switzerland, Turkey, United Kingdom, United States of America, Canada, Russian Federation, Azerbaijan, Uzbekistan, Ukraine, Kyrgyzstan, Kazakhstan, Tajikistan, Georgia, Turkmenistan, Vietnam, Indonesia, Bahrain, Kuwait, Oman, Qatar, KSA, UAE, South Africa, Hongkong/Taiwan (LPR only), Australia/New Zealand (LPR only), Peru/Columbia (LPR only), Liechtenstein, Mexico, Moldova, Monaco, San Marino, Sweden, Croatia, Czech Republic, Gibraltar, Israel, Kosovo, Macedonia, Mongolia
Integration Options		JSON over HTTP, UTMC 1, UTMC 2, NVR, Wisenet WAVE
VMS Support		Wisenet WAVE, Wisenet SSM, Genetec Security Center, Milestone Xprotect, Genetec AutoVu

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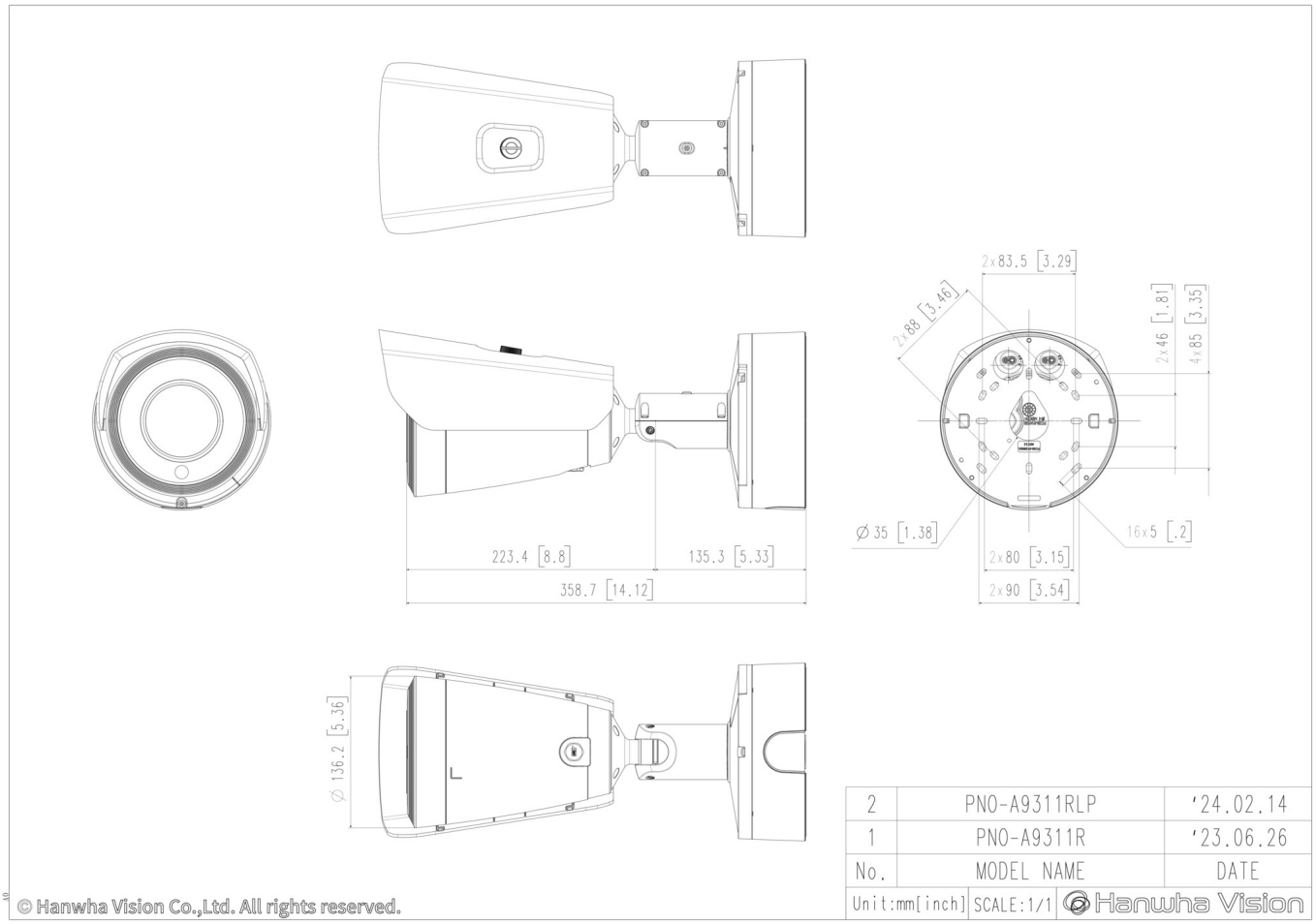
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CAD

Unit: mm [inch]



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