



Network

Bullet

# PNO-A9082R

8MP AI Bullet Camera



## Key Features

- Maximum 8MP resolution (1/1.2" sensor)
- 5.9~13.3mm(2.25x) motorized varifocal
- Long range WiselR distance up to 60m (196.85ft)
- Color: 0.015Lux(F1.5, 1/30sec, 30IRE)
- BW: 0.0015Lux(F1.5, 1/30sec, 30IRE)
- Analytics events based on AI engine : Object detection (Person/Face/Vehicle/License plate), IVA (Virtual line/Area, Enter/Exit, Loitering, Direction, Intrusion), Slip&Fall detection, Face mask detection, Social distancing detection
- Business intelligence based on AI engine : People/Vehicle/Crowd counting, Queue management, Heatmap
- Support BestShot and full attributes
- Support Dynamic Privacy Masking
- AI-based Image enhancement
- extremeWDR, WiseNR II (Based on AI engine), WiseStream(Based on AI engine)
- Support Wisepower(Power monitoring)
- Device certificate(Hanwha Vision Root CA), Secure storage(Secure element with FIPS 140-3 level3/CC EAL6+ certified), SBOM
- 2 SD slots edge storage
- IP66/IP67, NEMA4X, IK10, NEMA-TS 2(2.2.7.2-8, 2.2.8, 2.2.9)

# PNO-A9082R

8MP AI Bullet Camera



## Specifications

### Video

Imaging Device	Size	1/1.2"
	Type	CMOS
Resolution		3840x2160, 3328x1872, 3072x1728, 2688x1512, 2592x1944, 2560x1440, 1920x1080, 1600x1200, 1280x960, 1280x720, 1024x768, 800x600, 640x480, 640x360, 320x240, 320x180
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)
	MJPEG	30fps(@8MP Max. 5fps)
Min. Illumination (Lux)	Color(1/30sec, 30IRE)	0.015
	BW(1/30sec, 30IRE)	0.0015
Video Out		USB: Micro USB Type C

### Lens

Focal Length (mm)		5.9~13.3
Zoom Ratio	Optical	2.25x
Max Aperture Ratio (F number)	Wide	1.5
	Tele	2.9
Angular Field of View	Horizontal	109°~49°
	Vertical	59°~27°
	Diagonal	128°~56°
Min. Object Distance		0.8m(2.62ft)
Focus Control		Simple focus
Lens Type		P iris(IR corrected)

### Pan / Tilt / Rotate

Pan / Tilt / Rotate Range	Pan	0°~360°
	Tilt	0°~90°
	Rotate	0°~180°

### Operational

Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SSDR

## Operational

Wide Dynamic Range (dB)		120
Digital Noise Reduction		WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization		Support
Defog		Support
Motion Detection	Quantity	8ea
	Shape	8point Polygonal zones
Privacy Masking	Quantity	32ea
	Shape	8point Polygonal zones
	Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
	Dynamic Privacy Masking: Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
Gain Control		Off, Max gain, Manual
White Balance		ATW, NarrowATW, AWC, Manual, Indoor, Outdoor
LDC		Support(Fill/stretch mode)
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	2~1/30,000sec
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, Time schedule, MQTT subscription, Case tampering, Day/Night, Storage disruption
Alarm Events When Alarm Trigger Occurred		File upload(image): e-mail/FTP/SFTP, File upload(video clip): 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, MQTT: publication
Audio In		Selectable(mic in/line in)
Audio Out		Line out
Light Type		IR LED
Light Viewable Length	IR	WiseIR 60m(196.85ft)
IR Wavelength		850nm

## Analytics

Classified Object Type		Person, Face, Vehicle, License plate
Attributes	Person	Upper/Lower clothes color, Gender, Bag
	Vehicle	Type(car, bus, truck, motorcycle, bicycle), Color
	Face	Age, Gender, Face mask, Glasses
Thumbnail		BestShot

## Analytics

Analytics Events	Based on AI Engine	Object detection, Virtual line(Crossing/Direction), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear)
	Normal	Defocus detection, Tampering, Audio detection, Shock detection
Business Intelligence	Based on AI Engine	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting

## Network

Ethernet		Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression		H.265/H.264: Main/Baseline/High, MJPEG
Audio Compression		G.711(PCM): 8kHz(64kbps), G.726(ADPCM): 8kHz(16/24/32/40kbps), AAC-LC: 16kHz(48kbps), OPUS: 16kHz(64kbps)
Smart Codec		WiseStream(Based on AI engine)
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 5 profiles, 3 virtual channel support
Protocol		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, Syslog
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
Direct Cloud Connection		Support

## 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), SRTP
Access Control		IP-based access control, MAC-based access control, Auto logout
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		SDcard partition encrypt(AES-256), Secure element
Supply Chain Security		SBOM
Security Certificate		Secure element(FIPS 140-3 level3, CC EAL6+), Consumer IoT Security Standard (ETSI EN 303 645)

## General

SoC	Type	Wisenet 9
	Dual NPU	Support
Memory	RAM	4GB
	Flash	8GB eMMC
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 2slot(Total 2TB)
Edge Storage(OnCloud)	Micro SD/SDHC/SDXC	Max. 1TB x 2slots (Total 2TB) *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording.

## Environmental & Electrical

Operating Condition	Temperature	-50°C~+55°C(-58°F~+131°F)
	Humidity	0~100% RH(condensing)
	Others	+74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7), 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)
EPA(Effective Projected Area)		0.026m <sup>2</sup>
Input Voltage		PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE	Max. 19.2W, typical 11.0W
	12VDC	Max. 16.5W, typical 9.5W
Wisepower		Power monitoring
Power Redundance Failover		Support

## Mechanical

Color	White
Material	Aluminum, Hard-coated window
RAL Code	RAL9003
Product Dimensions	ø93.4x298.4mm(ø3.68x11.75")
Product Weight	2,060g(4.54lb)
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, KS C 9832 Class A, KS C 9835
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, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78

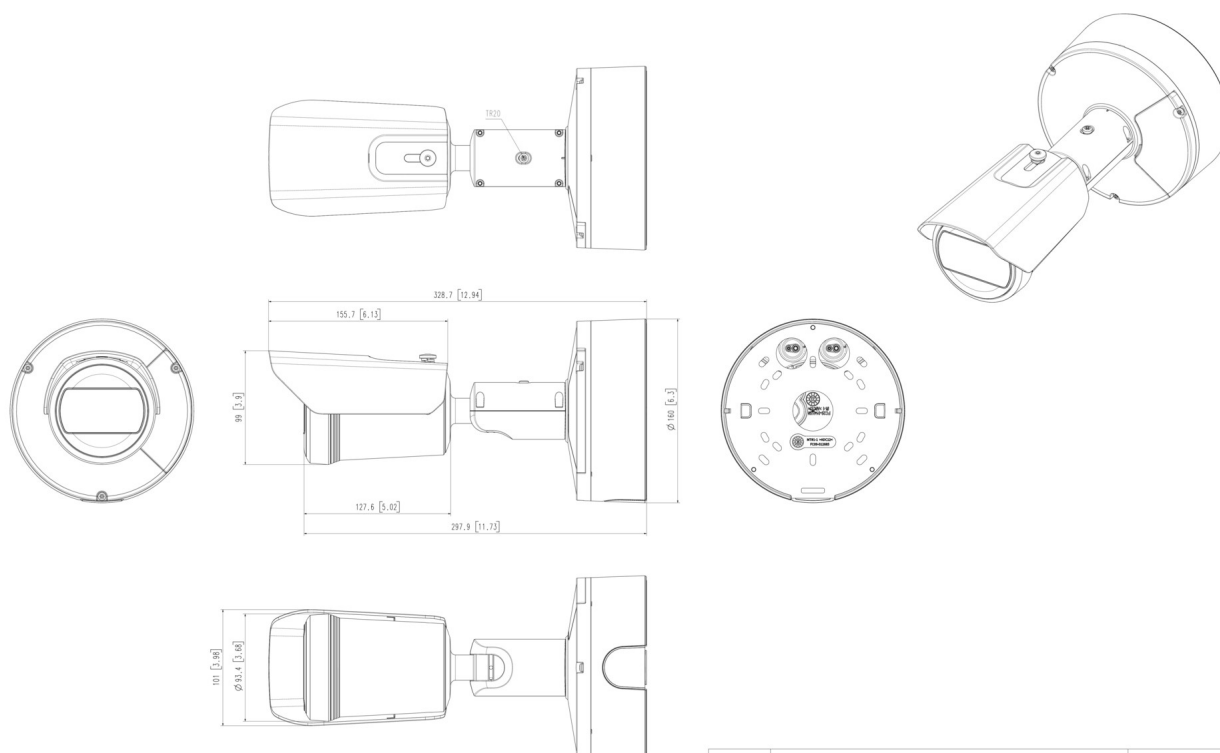
## DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	Wide	54.8m(179.73ft)
	Tele	168.5m(552.89ft)
Observe (63PPM/ 19PPF)	Wide	21.9m(71.89ft)
	Tele	67.4m(221.16ft)
Recognize (125PPM/ 38PPF)	Wide	11.0m(35.95ft)
	Tele	33.7m(110.58ft)
Identify (250PPM/ 76PPF)	Wide	5.5m(17.97ft)
	Tele	16.9m(55.29ft)

## 8MP AI Bullet Camera



Unit: mm [inch]



3	MODEL 2	
2	MODEL 1	
1	PNO-A7082R, A9082R	'25.03.06
No.	MODEL NAME	DATE
Unit:mm[inch]	SCALE:1/1	 Hanwha Vision

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