

Network | Bullet

# PNO-A9082R

## 8MP AI Vandal Bullet

## Key Features

- 8MP Image Resolution
- 5.9~13.3mm Focal Length
- 60m IR Length
- IP66, IP67, IK10 Rated
- Maximum 8MP resolution (1/1.2" sensor)
- 5.9~13.3mm (2.25x) motorized varifocal
- Long range WiseIR distance up to 60m (196.85ft)
- Colour: 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)

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## 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: USB Type C. Preview and installation ONLY. Requires WiFi dongle. |

### 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 |

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## 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,<br>File upload(video clip): FTP/SFTP,<br>Notification: e-mail,<br>Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output,<br>Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback,<br>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 |
| **Similarity Search** | | Support |
| **Thumbnail** | | BestShot |

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## 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), Behavior detection, Auto calibration |
| | 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: Main,<br>H.264: Main/Baseline/High,MJPEG |
| **Audio Compression** | | G.711(PCM): 8kHz(64kbps),<br>G.726(ADPCM): 8kHz(16/24/32/40kbps),<br>AAC-LC: 16kHz(48kbps),<br>OPUS: 16kHz(64kbps) |
| **Smart Codec** | | WiseStream(Based on AI engine) |
| **Bitrate Control** | | H.265/H.264: CBR or VBR,<br>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, IGMPv2, 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) |

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## 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)** | | 0.026㎡ |
| **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 |

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## AI Detection Distance

| | | |
|---|---|---|
| **Person(1.8m/5.9ft)** | Wide | up to 47m(156ft) |
| | Tele | up to 112m(367ft) |
| **Vehicle(1.45m/4.8ft)** | Wide | up to 64m(210ft) |
| | Tele | up to 151m(495ft) |

## 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) |

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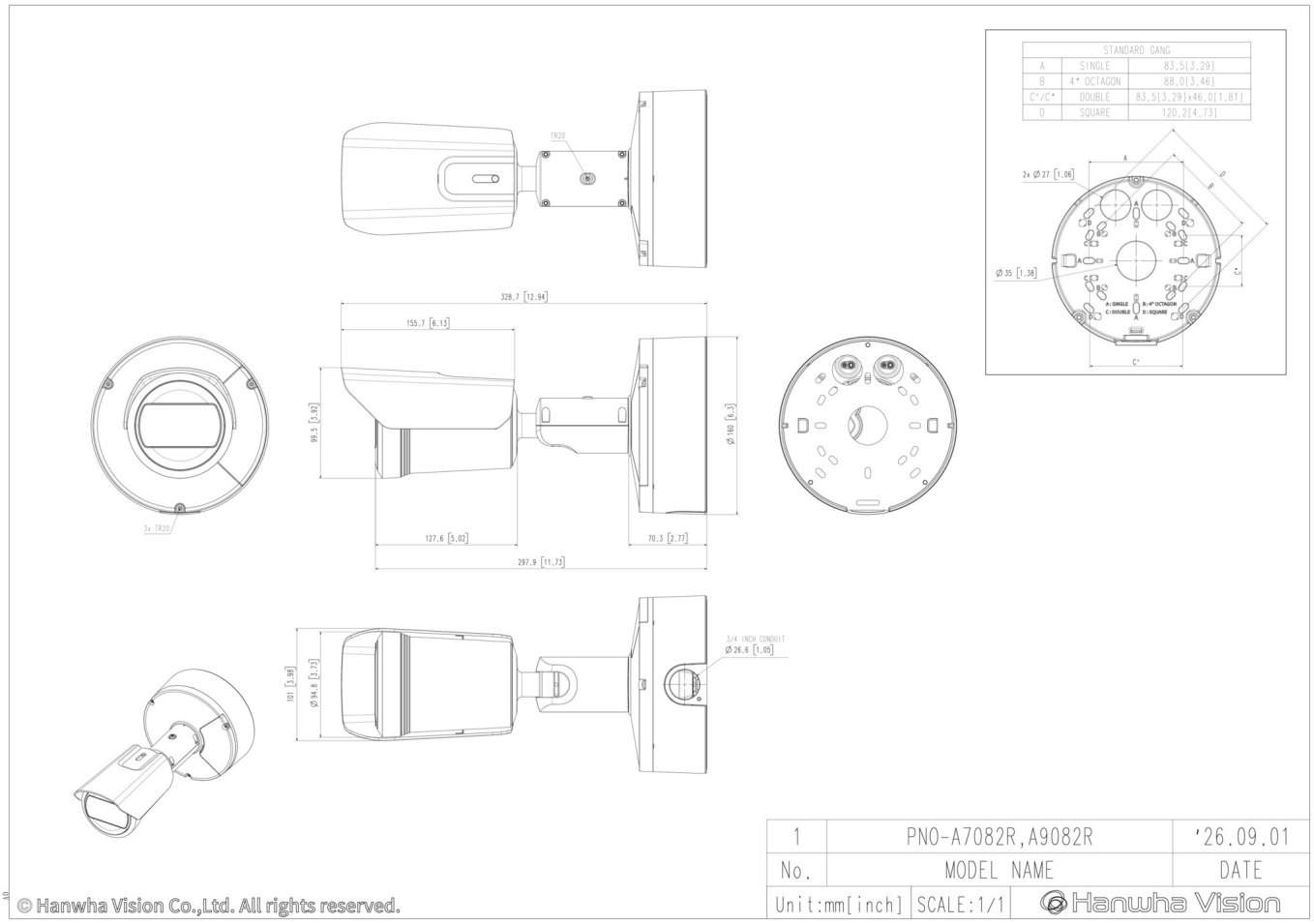
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## CAD

**Unit:** mm [inch]




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## Compatible Devices


SBP-160HMW1


SBP-140CMB


SBP-180CMB


SBP-180CMS


SBP-150CMP


SBP-300CMP


SBP-900CMP


SBP-C15H


SBP-C15NP


SBP-C35H


SBP-C15P


SBP-150CMI


SBP-300CMI


SBP-300CMW1


SBP-900CMW


SBP-300CMTW


SBP-300CMTS


SBP-160WMW1


SBP-250WMW


SBP-400WMW


SBP-115PFA


SBP-150PMW


SBD-180PMW


SBP-156KMW


SBP-156LMW1


SBP-150NBW


SBP-060BA


SPP-C7400


SPP-C45W


SBP-300WMW


SBP-300WMW1


SBP-300BW1


SBP-300PMW2


SBP-300KMW1


SBP-300LMW


SBP-300NBW

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