Hanwha Vision
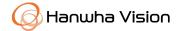
Network   Bullet

# 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)

# PNO-A9311R

## 4K AI IR Bullet Camera

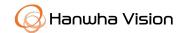## Specifications

### Video

| | |
|---|---|
| Imaging Device | 1/1.8" CMOS |
| Resolution | 3840x2160, 3072x1728, 2592x1944, 2688x1520, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024,1280x960, 1280x720, 1024x768, 800 x 600, 800 x 448, 720 x 576, 720x480, 640x480, 640x360 |
| Max. Framerate | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps |
| Min. Illumination | Color: 0.075Lux(F1.36, 1/30sec, 30IRE) BW: 0.0075Lux(F1.36, 1/30sec, 30IRE), 0Lux(IR LED on) |
| Video Out | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation |

### Lens

| | |
|---|---|
| Focal Length (Zoom Ratio) | 6.91~214.7mm (31x) motorized varifocal |
| Max. Aperture Ratio | F1.36(Wide)~F4.6(Tele) |
| Angular Field of View | H: 60.92°(Wide)~2.2°(Tele) V:35.26°(Wide)~1.24°(Tele) D:69.18°(Wide)~2.52°(Tele) |
| Min. Object Distance | 3m(9.84ft) |
| Focus Control | Simple focus |
| Lens Type | P iris |

### Operational

| | |
|---|---|
| Camera Title | Displayed up to 85 characters |
| Day & Night | Auto(ICR) |
| Backlight Compensation | BLC, WDR, SSDR |
| Wide Dynamic Range | 120dB |
| Digital Noise Reduction | WiseNR  II (using AI engine) SSNR V |
| Digital Image Stabilization | Support(built-in gyro sensor) |
| Motion Detection | 8ea, polygonal zones |
| Privacy Masking | 3ea, rectangle zones - Color: Gray/Black/White |
| Gain Control | Low / Middle / High |
| White Balance | ATW / AWC / Manual / Indoor / Outdoor |
| Electronic Shutter Speed | Minimum / Maximum / Anti flicker (1/5~1/12,000sec) Auto prefer shutter control based on AI engine |
| Video Rotation | Flip, Mirror, Hallway view(90-/270-) |

| Analytics | Classified object type: Person/Face/Vehicle/License plate<br>Attributes: Person(Gender, Color and Bag), Face(Age, Gender, Mask and Glasses), Vehicle(Type: car/bus/truck/motorcycle/bicycle and Color)<br>Support BestShot per object<br>Analytics events based on AI engine<br>- Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Face mask detection, Social distancing detection, Slip&Fall detection<br>Analytics events<br>- Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)<br>Support WiseDetector for Adding custom objects<br><br>*Some of the video analytics only works with people and vehicle detection |
|---|---|
| Business Intelligence | People/Vehicle/Crowd counting, Queue management, Heatmap based on AI engine |
| Alarm I/O | 2 configurable I/O ports, DC 12V output(Max. 50mA) |
| Alarm Triggers | Analytics, Network disconnect, Alarm input, App event, Time schedule, MQTT subscription |
| Alarm Events | When alarm trigger occurred<br>- File upload(image): e-mail/FTP<br>- Notification: e-mail<br>- Recording: SD/SDHC/SDXC or NAS recording at event triggers<br>- Alarm output<br>- Handover: PTZ preset, send message by HTTP/HTTPS/TCP<br>- Audio clip playback<br>- MQTT: publication |
| Audio In | Selectable(mic in/line in) |
| Audio Out | Line out |
| Light Type | IR LED (850nm) |
| IR Viewable Length | WiseIR 70m(229.66ft) |

## Network

| Ethernet | Metal shielded RJ-45(10/100/1000 BASE-T) |
|---|---|
| Video Compression | H.265/H.264: Main/High, MJPEG |
| Audio Compression | G.711 u-law /G.726 Selectable<br>G.726(ADPCM) 8KHz, G.711 8KHz<br>G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps<br>AAC-LC: 48Kbps at 16KHz |
| Smart Codec | Manual(5ea area), WiseStream II , WiseStreamIII(using AI engine) |
| Bitrate Control | H.264/H.265: CBR or VBR<br>MJPEG: VBR |
| Streaming | Unicast(6 users) / Multicast<br>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, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast), MQTT |
| Application Programming Interface | ONVIF Profile S/G/T/M<br>SUNAPI(HTTP API)<br>Wisenet open platform<br>- WiseAI application included(Analytic based on AI, Business intelligence) |

## Security

| OS / Firmware Protect | Encrypted Firmware, Secure boot, Signed Firmware |
|---|---|
| User authentication | Digest Authenticaton, 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 |
| Audit | Access / System / Event Log management |
| Device ID | Device certificate (Hanwha Techwin Root CA) |
| Secure Storage | TPM, SDcard partition encrypt |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com.
Hanwha Vision is formerly known as Hanwha Techwin.

| Security Certificate | TPM with FIPS 140-2 level 2 |
|---|---|

## General

| Webpage Language | English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek |
|---|---|
| Edge Storage | Micro SD/SDHC/SDXC 2slot Max. 512GB(256GBx2) |
| Memory | 4096MB RAM, 1024MB Flash |

## Environmental & Electrical

| Operating Temperature / Humidity | -40°C ~ +55°C(-40°F ~ +131°F) / 0~100% RH(condensing) , Humidity control /w Air vent<br>* Start up should be done at above -30°C |
|---|---|
| Storage Temperature / Humidity | -50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH |
| Certification | IP66/IP67, IK10, NEMA4X |
| Input Voltage | PoE+(IEEE802.3at, Class4), 12VDC |
| Power Consumption | PoE+: Max 25.5W, typical 14.0W<br>12VDC: Max 24.0W, typical 12.7.W |

## Mechanical

| Color / Material | White / Aluminum<br>Hard-coated window |
|---|---|
| RAL Code | RAL9003 |
| Product Dimensions / Weight | ø136.2x358.7mm(ø5.36x14.12")(Without sunshield), 3200g(7.05lb)<br>* backbox: ø160mm(ø6.30") |
| Compatible Conduit hole / Gangbox | 19.1mm(3/4")(M25)<br>single, double, 4" octagon, 4" square |

## Certifications & Standards

| EMC | FCC 47 CFR 15 Subpart B Class A<br>ICES-3(A)/NMB-3(A)<br>CE/UKCA<br>- EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3<br>VCCI CISPR 32 Class A<br>RCM AS/NZS CISPR 32 Class A |
|---|---|
| Safety | UL 62368-1, CAN/CSA C22.2 NO. 62368-1<br>IEC/EN 62471 |
| Environment | IEC/EN 63000<br>IEC/EN 60529 IP66/67, IEC/EN 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) |

# PNO-A9311R

4K AI IR Bullet Camera

## CAD

**Unit:**mm [inch]



2 x 83.5 [3.29]

2 x 88 [3.46]

2 X 46 [1.81]

4 x 85 [3.35]

∅ 35 [1.38]

16 x 5 [.2]

2 x 80 [3.15]

2 x 90 [3.54]

223.4 [8.8]    135.3 [5.33]

358.7 [14.12]

∅ 136.2 [5.36]

| 3 | – | |
| 2 | – | |
| 1 | PNO-A9311R | '23.06.26 |
| No. | MODEL NAME | DATE |
| Unit:mm[inch] | SCALE:1/1 | Hanwha Vision |