



Network

PTZ

## TNP-A9430RW

8MP AI Ruggedized PTZ Camera



### Key Features

- Max 8MP 43x
- Support Optical Image Stabilization
- IP66, IP68, NEMA4X
- NEMA TS-2 (2.2.7.2-8, 2.2.8, 2.2.9)
- IR viewable length 500 m
- Wind load max.160 mph
- Operating temperature : -50 ~60°C
- 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, Motion detection
- Support BestShot and full attributes
- Support Dynamic Privacy Masking
- extremeWDR, WiseNR II (Based on AI engine), WiseStream(Based on AI engine)
- Support Wisepower(Power monitoring, ECO mode)
- Device certificate(Hanwha Vision Root CA), Secure storage (Secure element with FIPS 140-3 level3/CC EAL6+ certified), SBOM

### Compatible Devices



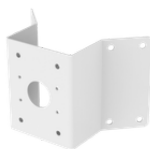
SBP-004PBW



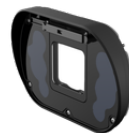
SBP-004WMW



SBP-150PMW



SBP-156KMW



SBP-K004F



SBP-K004W

## TNP-A9430RW

8MP AI Ruggedized PTZ Camera



### Specifications

| Video                         |                       |                                                                                                                                                               |
|-------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                | Size                  | 1/1.8"                                                                                                                                                        |
|                               | Type                  | CMOS                                                                                                                                                          |
| Resolution                    |                       | 3840x2160, 2592x1944, 2592x1464, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240 |
| Max. Framerate                | H.265/H.264           | 30fps/25fps(60Hz/50Hz)                                                                                                                                        |
|                               | MJPEG                 | 30fps(@8MP Max. 5fps)                                                                                                                                         |
| Min. Illumination (Lux)       | Color(1/30sec, 30IRE) | 0.06 Lux(F1.69, 1/30sec, 30 IRE)                                                                                                                              |
|                               | BW(1/30sec, 30IRE)    | 0.006 Lux(F1.69, IR LED Off), 0Lux (IR LED On)                                                                                                                |
| Lens                          |                       |                                                                                                                                                               |
| Focal Length (mm)             |                       | 6.1~262.4                                                                                                                                                     |
| Zoom Ratio                    | Optical               | 43                                                                                                                                                            |
|                               | Digital               | 1367                                                                                                                                                          |
| Max Aperture Ratio (F number) | Wide                  | F1.69                                                                                                                                                         |
|                               | Tele                  | F4.92                                                                                                                                                         |
| Angular Field of View         | Horizontal            | 63.62°(Wide)~1.77°(Tele)                                                                                                                                      |
|                               | Vertical              | 37.69°(Wide)~0.99°(Tele)                                                                                                                                      |
|                               | Diagonal              | 70.9°(Wide)~2.05°(Tele)                                                                                                                                       |
| Min. Object Distance          |                       | 5m(16.4ft)                                                                                                                                                    |
| Focus Control                 |                       | Auto, Manual, Oneshot AF, Focus save                                                                                                                          |
| Lens Type                     |                       | P iris(IR corrected)                                                                                                                                          |
| Pan / Tilt / Rotate           |                       |                                                                                                                                                               |
| Pan / Tilt / Rotate Range     | Pan                   | 360° Endless                                                                                                                                                  |
|                               | Tilt                  | Upright: 140°(50°~90°),<br>Canted: 165°(75°~90°),<br>Inverted: 140°(90°~50°)                                                                                  |
| Pan Speed                     | Preset                | Max. 160°/sec                                                                                                                                                 |
|                               | Manual                | 0.024°/sec~160°/sec                                                                                                                                           |

## Pan / Tilt / Rotate

|                 |        |                                                                   |
|-----------------|--------|-------------------------------------------------------------------|
| Tilt Speed      | Preset | Max. 160°/sec                                                     |
|                 | Manual | 0.024°/sec~160°/sec                                               |
| Sequence        |        | Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule |
| Preset Accuracy |        | ±0.07°                                                            |

## Operational

|                                          |                                         |                                                                                                                                                                                                                                                                             |
|------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Direction Indicator                      |                                         | Support                                                                                                                                                                                                                                                                     |
| Day & Night                              |                                         | Auto(ICR)                                                                                                                                                                                                                                                                   |
| Backlight Compensation                   |                                         | BLC, HLC, WDR, SSDR                                                                                                                                                                                                                                                         |
| Wide Dynamic Range (dB)                  |                                         | 120                                                                                                                                                                                                                                                                         |
| Digital Noise Reduction                  |                                         | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                      |
| Digital Image Stabilization              |                                         | Support(built-in gyro sensor)                                                                                                                                                                                                                                               |
| Optical Image Stabilization              |                                         | Support                                                                                                                                                                                                                                                                     |
| Defog                                    |                                         | Support                                                                                                                                                                                                                                                                     |
| Motion Detection                         | Quantity                                | 8ea                                                                                                                                                                                                                                                                         |
|                                          | Shape                                   | 8point Polygonal zones                                                                                                                                                                                                                                                      |
| Privacy Masking                          | Quantity                                | 32ea                                                                                                                                                                                                                                                                        |
|                                          | Shape                                   | 4point Quadrangle zones                                                                                                                                                                                                                                                     |
|                                          | Color / Option                          | Gray, Green, Red, Blue, Black, White, Mosaic                                                                                                                                                                                                                                |
|                                          | 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, Mercury, Sodium                                                                                                                                                                                                               |
| Electronic Shutter                       | Mode                                    | Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)                                                                                                                                                                                                  |
|                                          | Speed Range                             | 2~1/30,000sec                                                                                                                                                                                                                                                               |
| Video Rotation                           |                                         | Flip&Mirror                                                                                                                                                                                                                                                                 |
| Installation Direction                   |                                         | Upright, Inverted, Canted                                                                                                                                                                                                                                                   |
| Alarm Interface                          | Others                                  | Support alarm I/O via optional I/O box                                                                                                                                                                                                                                      |
| Alarm Triggers                           |                                         | Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription                                                                                                                                                                                                |
| Alarm Events When Alarm Trigger Occurred |                                         | File upload(image): e-mail/FTP,<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                                 |                                         | Support via optional I/O box                                                                                                                                                                                                                                                |
| Audio Out                                |                                         | Support via optional I/O box                                                                                                                                                                                                                                                |
| Light Type                               |                                         | IR LED                                                                                                                                                                                                                                                                      |
| Light Viewable Length                    | IR                                      | 500m(1,640.42ft)                                                                                                                                                                                                                                                            |

## Operational

|               |                                                                     |
|---------------|---------------------------------------------------------------------|
| IR Wavelength | 850nm                                                               |
| Water Removal | Support(with Wiper)                                                 |
| Ice Removal   | Window, Pan                                                         |
| Auto Tracking | Support, Object auto tracking(Person/Vehicle), Target lock tracking |

## 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 Events       | Based on AI Engine | Object detection, Virtual line(Crossing/Direction), Motion detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Auto tracking |
|                        | Normal             | Tampering, Audio detection, Shock detection                                                                                                                               |

## Network

|                                   |                    |                                                                                                                                                                                                                                                 |
|-----------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet                          |                    | RJ-45 Push-pull Connector(10/100BASE-T)                                                                                                                                                                                                         |
| Video Compression                 |                    | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                                          |
| 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 10 profiles                                                                                                                                                                                                                               |
| 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, NTCIP 1205, 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)                               |

## Security

|                       |                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------|
| 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               | Wisenet9                                                                                                              |
|                       | Dual NPU           | Support                                                                                                               |
| Memory                | RAM                | 4GB                                                                                                                   |
|                       | Flash              | 16GB eMMC                                                                                                             |
| Edge Storage          | Micro SD/SDHC/SDXC | Max. 1TB x 1slot                                                                                                      |
| Edge Storage(OnCloud) | Micro SD/SDHC/SDXC | Max. 1TB x 1slot *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording. |

## Environmental & Electrical

|                               |             |                                                                                                                      |
|-------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------|
| Operating Condition           | Temperature | -50°C~+60°C(-58°F~+140°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)                                                                                             |
| Wind Load                     |             | Sustained 257km/h (160mph)                                                                                           |
| EPA(Effective Projected Area) |             | 0.095m <sup>2</sup>                                                                                                  |
| Input Voltage                 |             | PoE++(IEEE802.3bt type4, Class8)                                                                                     |
| Power Consumption             | PoE         | Max 71W, Typical 33.2W                                                                                               |
| Wisepower                     |             | Power mode, Power monitoring, ECO mode                                                                               |

## Mechanical

|                     |             |                                                                                                                                                            |
|---------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color               |             | White, Black                                                                                                                                               |
| Material            |             | Aluminum, PC(Polycarbonate), ITO Glass                                                                                                                     |
| Material Management | Declaration | RoHS(EU RoHS directive 2011/65/EU and IEC/EN 63000:2018), REACH(Regulation (EC) No. 1907/2006), Conflict mineral policy(Section 1502 of US Dodd Frank Act) |
| RAL Code            |             | RAL9003, RAL9005                                                                                                                                           |
| Product Dimensions  |             | Upright Normal/Inverted : 293.4(W)x205.6(D)x399.9(H)mm (11.55x8.09x15.74")<br>Upright Canted : 293.4(W)x301.9(D)x363.6.9(H)mm (11.55x11.89x14.31")         |
| Product Weight      |             | 10.5kg(9.5kg: Excluding installation part)                                                                                                                 |

## Certifications & Standards

|     |                                                                                                                                                                                                    |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC | EN 50121-4, FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), CE/UKCA - EN55032 Class A, EN 50130-4, VCCI CISPR 32 Class A, RCM AS-NZS CISPR 32 Class A, KS C 9832 Class A, KS C 9835, EN 55035 |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Certifications & Standards

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety      | UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC 62471, IEC/EN/UL 62368-1 GS UL cUL CE FCC VCCI CB                                                                                                                                                                                                                                                                                                                                                                                               |
| Environment | IEC 60529 IP66, IEC 60529 IP68, 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, MIL-STD-810H 501.7, MIL-STD-810H 502.7, MIL-STD-810H 503.7, MIL-STD-810H 505.7, MIL-STD-810H 506.6, MIL-STD-810H 507.6, MIL-STD-810H 509.7, MIL-STD-810H 510.7, MIL-STD-810H 521.4, IEC 60068-2-52:2017, NEMA TS2, 2.1.9, NEMA TS2, 2.1.10, NEMA TS2, 2.2.4, NEMA 250, 5.6, ASTM B117 |

## DORI (EN62676-4 standard)

|                           |      |                  |
|---------------------------|------|------------------|
| Detect (25PPM/ 8PPF)      | Wide | 123.8m(406.23ft) |
|                           | Tele | 4972m(16311ft)   |
| Observe (63PPM/ 19PPF)    | Wide | 49.5m(162.49ft)  |
|                           | Tele | 1989m(6525ft)    |
| Recognize (125PPM/ 38PPF) | Wide | 24.8m(81.25ft)   |
|                           | Tele | 994.3m(3262ft)   |
| Identify (250PPM/ 76PPF)  | Wide | 12.4m(40.62ft)   |
|                           | Tele | 497.2m(1631ft)   |

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CAD

Unit: mm [inch]

