



Network

# PNM-9031RV

15MP Panoramic Camera



## Key Features

- Max. 15MP 192° panoramic stitching image
- Panoramic channel
- IR viewable length Maximum 20m (65.6ft), WiseIR
- H.265 / H.264 : Max. 20fps
- MJPEG : Max. 15fps
- H.265, H.264, MJPEG codec, WiseStreamII supported
- Motion, Defocus detection, Virtual line, Enter / Exit
- (Dis)Appear, Audio detection, Motion detection, Handover, Heatmap
- microSD/SDHC/SDXC 2 slots, PoE+,
- IP66, IK10, NEMA4X
- TPM 2.0 (FIPS 140-2 level 2)

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15MP Panoramic Camera



## Specifications

### Video

|                         |                       |                                                                             |
|-------------------------|-----------------------|-----------------------------------------------------------------------------|
| Imaging Device          | Size                  | 1/2.8"                                                                      |
|                         | Type                  | CMOS                                                                        |
| Resolution              |                       | 6720x2240, 5952x1984, 4992x1664, 3840x1280, 3072x1024, 1920x640, 1152x384   |
| Max. Framerate          | H.265/H.264           | 20fps/20fps(60Hz/50Hz)                                                      |
|                         | MJPEG                 | 15fps                                                                       |
| Min. Illumination (Lux) | Color(1/30sec, 30IRE) | 0.1                                                                         |
|                         | BW(1/30sec, 30IRE)    | 0.01                                                                        |
| Video Out               |                       | USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle. |

### Lens

|                               |            |               |
|-------------------------------|------------|---------------|
| Focal Length (mm)             |            | 4.3           |
| Max Aperture Ratio (F number) | Wide       | 1.6           |
| Angular Field of View         | Horizontal | 195.3°~197.0° |
|                               | Vertical   | 63.6°         |
| Min. Object Distance          |            | 5m(16.4ft)    |
| Focus Control                 |            | Fixed         |

### Pan / Tilt / Rotate

|                           |      |         |
|---------------------------|------|---------|
| Pan / Tilt / Rotate Range | Pan  | 0°~360° |
|                           | Tilt | 0°~60°  |

### Operational

|                         |          |                        |
|-------------------------|----------|------------------------|
| Day & Night             |          | Auto(ICR)              |
| Backlight Compensation  |          | BLC, WDR, SSDR         |
| Wide Dynamic Range (dB) |          | 120                    |
| Digital Noise Reduction |          | SSNR V                 |
| Motion Detection        | Quantity | 8ea                    |
|                         | Shape    | 8point Polygonal zones |

## Operational

|                                          |                |                                                                                                                                      |
|------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Privacy Masking                          | Quantity       | 6ea                                                                                                                                  |
|                                          | Shape          | Rectangular zones                                                                                                                    |
|                                          | Color / Option | Gray, Green, Red, Blue, Black, White                                                                                                 |
| Gain Control                             |                | Low, Middle, High                                                                                                                    |
| White Balance                            |                | ATW, AWC, Manual, Indoor, Outdoor                                                                                                    |
| Electronic Shutter                       | Mode           | Minimum, Maximum, Anti flicker                                                                                                       |
|                                          | Speed Range    | 2~1/12,000sec                                                                                                                        |
| Video Rotation                           |                | Flip, Mirror                                                                                                                         |
| Alarm Interface                          | In/Out         | 2 configurable I/O ports                                                                                                             |
| Alarm Triggers                           |                | Analytics, Network disconnect, Alarm input                                                                                           |
| Alarm Events When Alarm Trigger Occurred |                | File upload(image): e-mail/FTP,<br>Notification: e-mail,<br>Recording: SD/SDHC/SDXC or NAS recording at event triggers, Alarm output |
| Audio In                                 |                | Selectable(mic in/line in)                                                                                                           |
| Audio Out                                |                | Line out                                                                                                                             |
| Light Type                               |                | IR LED                                                                                                                               |
| Light Viewable Length                    | IR             | WiseIR 20m(65.62ft) 4 individual zones with Automatic and Manual level adjustment                                                    |
| IR Wavelength                            |                | 850nm                                                                                                                                |

## Analytics

|                       |        |                                                                                                                                                                        |
|-----------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analytics Events      | Normal | Defocus detection, Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual area(Appear/Disappear), Virtual line(Crossing, Direction) |
| Business Intelligence | Normal | Heatmap                                                                                                                                                                |

## Network

|                   |                    |                                                                                                                                                                                                  |
|-------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet          |                    | Metal shielded RJ-45(10/100/1000BASE-T)                                                                                                                                                          |
| Video Compression |                    | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                           |
| Audio Compression |                    | G.711 u-law /G.726 selectable,G.726(ADPCM) 8kHz,G.711 8kHz,<br>G.726: 16kbps,24kbps,32kbps,40kbps,<br>AAC-LC: 48kbps at 16kHz                                                                    |
| Smart Codec       |                    | Manual, WiseStream II                                                                                                                                                                            |
| Bitrate Control   |                    | H.265/H.264: CBR or VBR,<br>MJPEG: VBR                                                                                                                                                           |
| Streaming         | Unicast            | Up to 15 users                                                                                                                                                                                   |
|                   | Multicast          | Support                                                                                                                                                                                          |
|                   | Multiple Streaming | Up to 5 profiles                                                                                                                                                                                 |
| Protocol          |                    | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS,<br>SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS,<br>UPnP, Bonjour, LLDP, PIM-SM |

## Network

|                                   |        |                  |
|-----------------------------------|--------|------------------|
| Application Programming Interface | ONVIF  | S, G, T          |
|                                   | Others | SUNAPI(HTTP API) |

## Security

|                        |                                                                         |
|------------------------|-------------------------------------------------------------------------|
| User authentication    | Digest authentication                                                   |
| Network authentication | IEEE 802.1X(EAP-TLS, EAP-LEAP)                                          |
| Secure Communication   | HTTPS                                                                   |
| 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), SDcard partition encrypt(AES-256)         |
| Security Certificate   | TPM 2.0 with FIPS 140-2 level2                                          |

## General

|              |                    |                                 |
|--------------|--------------------|---------------------------------|
| Memory       | RAM                | 8GB                             |
|              | Flash              | 4GB                             |
| Edge Storage | Micro SD/SDHC/SDXC | Max. 256GB x 2slot(Total 512GB) |

## Environmental & Electrical

|                     |             |                                        |
|---------------------|-------------|----------------------------------------|
| Operating Condition | Temperature | -40°C~+55°C(-40°F~+131°F)              |
|                     | Humidity    | 0~95% 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         | Max. 23.5W, typical 18W                |
|                     | 12VDC       | Max. 20.5W, typical 16W                |

## Mechanical

|                         |                                    |
|-------------------------|------------------------------------|
| Color                   | White                              |
| Material                | Aluminum                           |
| RAL Code                | RAL9003                            |
| Product Dimensions      | ø253x170mm(9.96x6.69")             |
| Product Weight          | 2,900g(6.39lb)                     |
| Compatible Conduit Hole | 19.1mm(3/4")(M25)                  |
| Compatible Gang Box     | Single, Double, 4" Octagon, Square |

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**Certifications & Standards**

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|             |                                                  |
|-------------|--------------------------------------------------|
| Environment | IEC 60529 IP66, IEC 62262 IK10, NEMA 250 type 4X |
|-------------|--------------------------------------------------|

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## 15MP Panoramic Camera



Unit: mm [inch]

