



Network

Dome

# PNV-A9081RLP

4K IR Vandal Dome AI Camera with Wisenet Road AI



## Key Features

- 4K resolution
- 0.05Lux@F1.6 (Color), 0Lux (B/W, IR LED on)
- Day & Night(ICR), WDR(120dB)
- IR Viewable Length 30m (98.42ft)
- H.265, H.264, MJPEG codec, WiseStream II
- Wisenet Road AI application (Pre-installed)
- License Plate Recognition (LPR)
- Make/Model/Color Recognition
- Allow / Deny list notification
- Smart Search (LP, Country, brand, model, color)

# PNV-A9081RLP

4K IR Vandal Dome AI Camera with Wisenet Road AI



## Specifications

| Video                         |                       |                                                                                                                                                                                       |
|-------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                | Size                  | 1/1.8"                                                                                                                                                                                |
|                               | Type                  | CMOS                                                                                                                                                                                  |
| Resolution                    |                       | 3840x2160, 3072x1728, 2688x1520, 2592x1944, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360 |
| Max. Framerate                | H.265/H.264           | 30fps/25fps(60Hz/50Hz)                                                                                                                                                                |
|                               | MJPEG                 | 30fps                                                                                                                                                                                 |
| Min. Illumination (Lux)       | Color(1/30sec, 30IRE) | 0.05                                                                                                                                                                                  |
|                               | BW(1/30sec, 30IRE)    | 0.005                                                                                                                                                                                 |
| Video Out                     |                       | CVBS: 1.0 Vp-p / 75Ω composite for installation,<br>USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.                                                       |
| Lens                          |                       |                                                                                                                                                                                       |
| Focal Length (mm)             |                       | 4.5~10                                                                                                                                                                                |
| Zoom Ratio                    | Optical               | 2.2x                                                                                                                                                                                  |
| Max Aperture Ratio (F number) | Wide                  | 1.6                                                                                                                                                                                   |
|                               | Tele                  | 2.65                                                                                                                                                                                  |
| Angular Field of View         | Horizontal            | 101.4°~45.5°                                                                                                                                                                          |
|                               | Vertical              | 53.6°~25.5°                                                                                                                                                                           |
|                               | Diagonal              | 120.7°~52.3°                                                                                                                                                                          |
| Min. Object Distance          |                       | 0.5m(1.64ft)                                                                                                                                                                          |
| Focus Control                 |                       | Simple focus                                                                                                                                                                          |
| Lens Type                     |                       | P iris(IR corrected)                                                                                                                                                                  |
| Pan / Tilt / Rotate           |                       |                                                                                                                                                                                       |
| Pan / Tilt / Rotate Range     | Pan                   | 0°~360°                                                                                                                                                                               |
|                               | Tilt                  | -45°~85°                                                                                                                                                                              |
|                               | Rotate                | 0°~355°                                                                                                                                                                               |
| Operational                   |                       |                                                                                                                                                                                       |
| Day & Night                   |                       | Auto(ICR)                                                                                                                                                                             |

## Operational

|                                          |                |                                                                                                                                                                                     |
|------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Backlight Compensation                   |                | BLC, WDR, SSDR                                                                                                                                                                      |
| Wide Dynamic Range (dB)                  |                | 120                                                                                                                                                                                 |
| Digital Noise Reduction                  |                | SSNR V                                                                                                                                                                              |
| Digital Image Stabilization              |                | Support(built-in gyro sensor)                                                                                                                                                       |
| Motion Detection                         | Quantity       | 8ea                                                                                                                                                                                 |
|                                          | Shape          | 8point Polygonal zones                                                                                                                                                              |
| Privacy Masking                          | Quantity       | 6ea                                                                                                                                                                                 |
|                                          | Shape          | Rectangular zones                                                                                                                                                                   |
|                                          | Color / Option | Gray, Black, White                                                                                                                                                                  |
| Gain Control                             |                | Low, Middle, High                                                                                                                                                                   |
| White Balance                            |                | ATW, AWC, Manual, Indoor, Outdoor                                                                                                                                                   |
| LDC                                      |                | Support                                                                                                                                                                             |
| Electronic Shutter                       | Mode           | Minimum, Maximum, Anti flicker                                                                                                                                                      |
|                                          | Speed Range    | 1/5~1/12,000sec                                                                                                                                                                     |
| Video Rotation                           |                | Flip, Mirror, Hallway view(90°/270°)                                                                                                                                                |
| Alarm Interface                          | In/Out         | Input 1ea, Output 1ea                                                                                                                                                               |
|                                          | Others         | 12VDC output                                                                                                                                                                        |
| Alarm Triggers                           |                | Analytics, Network disconnect, Alarm input                                                                                                                                          |
| Alarm Events When Alarm Trigger Occurred |                | File upload(image): e-mail/FTP,<br>Notification: e-mail,Alarm output,<br>Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback,NAS<br>recording at event triggers |
| Audio In                                 |                | Selectable(mic in/line in)                                                                                                                                                          |
| Audio Out                                |                | Line out                                                                                                                                                                            |
| Light Type                               |                | IR LED                                                                                                                                                                              |
| Light Viewable Length                    | IR             | 30m(98.42ft)                                                                                                                                                                        |
| IR Wavelength                            |                | 850nm                                                                                                                                                                               |

## Analytics

|                  |        |                                                                                                        |
|------------------|--------|--------------------------------------------------------------------------------------------------------|
| Analytics Events | Normal | Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection |
|------------------|--------|--------------------------------------------------------------------------------------------------------|

## Network

|                   |  |                                                                                                                               |
|-------------------|--|-------------------------------------------------------------------------------------------------------------------------------|
| Ethernet          |  | Metal shielded RJ-45(10/100/1000BASE-T)                                                                                       |
| Video Compression |  | H.265: Main,<br>H.264: Main/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                                                                                                         |

## Network

|                                   |                    |                                                                                                                                                                                                              |
|-----------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bitrate Control                   |                    | H.265/H.264: CBR or VBR,<br>MJPEG: VBR                                                                                                                                                                       |
| Streaming                         | Unicast            | Up to 10 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, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast) |
| Application Programming Interface | ONVIF              | S, G, T                                                                                                                                                                                                      |
|                                   | Others             | SUNAPI(HTTP API)                                                                                                                                                                                             |
| 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                                                 |
| 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 Certificate   |  | None, None                                                              |

## General

|              |                    |                                                                                                                       |
|--------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|
| Memory       | RAM                | 4GB                                                                                                                   |
|              | Flash              | 512MB                                                                                                                 |
| Edge Storage | Micro SD/SDHC/SDXC | 1slot (32GB card preinstalled) dedicated to strong LPR images from Wisenet Road AI app only (not for video recording) |

## Environmental & Electrical

|                     |             |                                        |
|---------------------|-------------|----------------------------------------|
| Operating Condition | Temperature | -40°C~+55°C(-40°F~+131°F)              |
|                     | Humidity    | 0~90% 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 20.00W, typical 17.00W             |
|                     | 12VDC       | Max 18.70W, typical 15.00W             |

## Mechanical

|                         |                                    |
|-------------------------|------------------------------------|
| Color                   | White                              |
| Material                | Aluminum                           |
| RAL Code                | RAL9003                            |
| Product Dimensions      | Ø180x125mm(7.09x4.92")             |
| Product Weight          | 1,900g(4.19lb)                     |
| Compatible Conduit Hole | 19.1mm(3/4")(M25)                  |
| Compatible Gang Box     | Single, Double, 4" Octagon, Square |

## Wisenet Road AI LPR/ANPR/MMCR

|                             |         |                                        |
|-----------------------------|---------|----------------------------------------|
| App Type                    |         | CNN (Convolutional Neural Network) AI  |
| LPR Usage Condition         | NA      | Community Traffic, Parking Application |
|                             | EU      | Community Traffic, Parking Application |
| Speed Description by Region | NA      | Low to Moderate Speed                  |
|                             | EU      | Low to Moderate Speed                  |
| Lane Coverage_NA            | 1 Lane  | 3.6m/12ft wide (with built in IR)      |
|                             | 2 Lanes | 8.1m/26ft wide (with built in IR)      |
| Lane Coverage_EU            | 1 Lane  | 3.6m/12ft wide (with built in IR)      |
|                             | 2 Lanes | 8.1m/26ft wide (with built in IR)      |
|                             | 3 Lanes | 16.2m/53ft wide (with built in IR)     |
| Plate Capture Resolution_NA | 1 Lane  | 4K                                     |
|                             | 2 Lanes | 4K                                     |
| Plate Capture Resolution_EU | 1 Lane  | 4K                                     |
|                             | 2 Lanes | 4K                                     |
|                             | 3 Lanes | 4K                                     |
| Speed Limit_NA              | 1 Lane  | Up to 90km/h (56mph)                   |
|                             | 2 Lanes | Up to 70km/h (43mph)                   |
| Speed Limit_EU              | 1 Lane  | Up to 110km/h (68mph)                  |
|                             | 2 Lanes | Up to 100km/h (62mph)                  |
|                             | 3 Lanes | Up to 45km/h (28mph)                   |
| Min. Forward Distance_NA    | 1 Lane  | 6m (19.7ft)                            |
|                             | 2 Lanes | 8m (26.2ft)                            |
| Min. Forward Distance_EU    | 1 Lane  | 6m (19.7ft)                            |
|                             | 2 Lanes | 6m (19.7ft)                            |
|                             | 3 Lanes | 9m (29.5ft)                            |
| Max. Forward Distance_NA    | 1 Lane  | 15m (49.2ft)                           |
|                             | 2 Lanes | 15m (49.2ft)                           |

## Wisenet Road AI LPR/ANPR/MMCR

|                                 |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Max. Forward Distance_EU        | 1 Lane  | 20m (65.6ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                 | 2 Lanes | 20m (65.6ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                 | 3 Lanes | 20m (65.6ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Max. Horizontal Angle by Region | NA      | 30° for highway, 45° for traffic observation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                 | EU      | 30° for highway, 45° for traffic observation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Max. Vertical Angle by Region   | NA      | 30°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                 | EU      | 30°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Vehicle Recognition             |         | Make: 100+ makes Model: 4700+ models Color: 11 colors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Available Countries             |         | Albania, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Greece, Germany, Hungary, Ireland, Iceland, Italy, Lithuania, Luxembourg, Latvia, Montenegro, North Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Slovakia, Spain, Switzerland, Turkey, United Kingdom, United States of America, Canada, Russian Federation, Azerbaijan, Uzbekistan, Ukraine, Kyrgyzstan, Kazakhstan, Tajikistan, Georgia, Turkmenistan, Vietnam, Indonesia, Bahrain, Kuwait, Oman, Qatar, KSA, UAE, South Africa, Hongkong/Taiwan (LPR only), Australia/New Zealand (LPR only), Peru/Columbia (LPR only), Liechtenstein, Mexico, Moldova, Monaco, San Marino, Sweden, Croatia, Czech Republic, Gibraltar, Israel, Kosovo, Macedonia, Mongolia |
| Integration Options             |         | JSON over HTTP, UTM 1, UTM 2, NVR, Wisenet WAVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| VMS Support                     |         | Wisenet WAVE, Wisenet SSM, Genetec Security Center, Milestone Xprotect, Genetec AutoVu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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Wisenet Road AI



CAD

Unit: mm [inch]

