



Network

# PNM-9022V

8MP Panoramic Camera



## Key Features

- Max. 2MP x 4CH
- 209° Mode, 180° Mode support
- 2.8mm fixed focal lens x 4
- H.265/H.264 : Max. 30fps
- MJPEG : Max. 30fps
- extreme WDR (120dB)
- H.265, H.264, MJPEG codec, WiseStreamII supported
- Digital PTZ Support (2CH)
- Tampering, Heatmap
- IP66, IK10, NEMA4X

## Compatible Devices



SBP-300LMW



SBP-300WMW1



SBP-300KMW



SBP-300BW



SBP-300PMW



SBP-276HMMW



SBP-300WMW



SBP-390WMW2



SBP-300NBW



SBP-300CMW

# PNM-9022V

8MP Panoramic Camera



## Specifications

| Video                         |                       |                                                                                                                                                                               |
|-------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device                | Size                  | 1/2.8"                                                                                                                                                                        |
|                               | Type                  | CMOS                                                                                                                                                                          |
| Resolution                    |                       | 4608x1800, 4096x1800, 4032x1576, 3584x1576, 3456x1352, 3072x1352, 2864x1124, 2560x1124, 2304x900, 2048x900, 1728x676, 1536x676, 1152x452, 1024x452, 720x576, 560x224, 512x224 |
| Max. Framerate                | H.265/H.264           | 30fps/25fps(60Hz/50Hz)                                                                                                                                                        |
|                               | MJPEG                 | 30fps                                                                                                                                                                         |
| 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)             |                       | 2.8                                                                                                                                                                           |
| Max Aperture Ratio (F number) | Wide                  | 1.6                                                                                                                                                                           |
| Angular Field of View         | Horizontal            | 209°                                                                                                                                                                          |
|                               | Vertical              | 83.3°                                                                                                                                                                         |
| Min. Object Distance          |                       | 1.5m(4.92ft)                                                                                                                                                                  |
| Focus Control                 |                       | Fixed                                                                                                                                                                         |
| Pan / Tilt / Rotate           |                       |                                                                                                                                                                               |
| Pan / Tilt / Rotate Range     | Pan                   | 0°~355°                                                                                                                                                                       |
|                               | Tilt                  | 0°~60°                                                                                                                                                                        |
| Operational                   |                       |                                                                                                                                                                               |
| Day & Night                   |                       | Auto(ICR)                                                                                                                                                                     |
| Backlight Compensation        |                       | BLC, HLC, WDR, SSDR                                                                                                                                                           |
| Wide Dynamic Range (dB)       |                       | 120                                                                                                                                                                           |
| Digital Noise Reduction       |                       | SSNR V                                                                                                                                                                        |
| Defog                         |                       | Support                                                                                                                                                                       |

## Operational

|                                          |                |                                                                                                                                      |
|------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Motion Detection                         | Quantity       | 8ea                                                                                                                                  |
|                                          | Shape          | 8point Polygonal zones                                                                                                               |
| Privacy Masking                          | Quantity       | 32ea                                                                                                                                 |
|                                          | Shape          | Polygonal zones                                                                                                                      |
|                                          | Color / Option | Gray, Green, Red, Blue, Black, White, Mosaic                                                                                         |
| 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                                                                                                                        |
| Digital PTZ                              |                | Support                                                                                                                              |
| 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                                                                                                                             |

## 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(10/100BASE-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 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, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast), PIM-SM |

## Network

|                                   |        |                                               |
|-----------------------------------|--------|-----------------------------------------------|
| Application Programming Interface | ONVIF  | S, G, T                                       |
|                                   | Others | SUNAPI(HTTP API), Hanwha Vision Open Platform |
| Direct Cloud Connection           |        | Optional (needs gateway)                      |

## 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         | SDcard partition encrypt(AES-256)                                       |

## General

|              |                    |                               |
|--------------|--------------------|-------------------------------|
| Memory       | RAM                | 4GB                           |
|              | Flash              | 512MB                         |
| Edge Storage | Micro SD/SDHC/SDXC | Max. 512GB x 2slot(Total 1TB) |

## Environmental & Electrical

|                     |             |                                  |
|---------------------|-------------|----------------------------------|
| Operating Condition | Temperature | -40°C~+55°C(-40°F~+131°F)        |
|                     | Humidity    | 0~95% RH(non-condensing)         |
| 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. 18W, typical 10.4W          |
|                     | 12VDC       | Max. 16W, typical 9W             |

## Mechanical

|                         |                                    |
|-------------------------|------------------------------------|
| Color                   | White                              |
| Material                | Aluminum                           |
| RAL Code                | RAL9003                            |
| Product Dimensions      | ø253x165mm(9.96x6.5")              |
| Product Weight          | 3.200g(7.05lb)                     |
| Compatible Conduit Hole | 19.1mm(3/4")(M25)                  |
| Compatible Gang Box     | Single, Double, 4" Octagon, Square |

## Certifications & Standards

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

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CAD

Unit: mm [inch]

