

Network

# TNM-P9022EPT3-Z

Explosion-proof Panoramic Camera

## Key Features

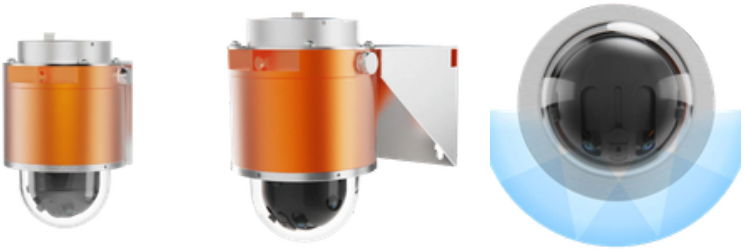
- FM (Factory Mutual Insurance) certified, C1/D1 certification
- Marine-ready Aluminum and Dual patented technology
- PoE+ powered
- 180° and 209° mode switchable
- Extreme WDR (120db)
- Intelligent Video analytics
- Optional mounts required for installation

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# TNM-P9022EPT3-Z

Explosion-proof 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(@8MP Max. 5fps) |
| **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° |
| **Min. Object Distance** | | 1.5m(4.92ft) |
| **Focus Control** | | Fixed |

### Pan / Tilt / Rotate

| | | |
|---|---|---|
| **Pan / Tilt / Rotate Range** | Pan | 0°~355° |
| | Tilt | 0°~60° |
| **Sequence** | | Preset(255ea) |

### Operational

| | |
|---|---|
| **Day & Night** | Auto(ICR) |
| **Backlight Compensation** | BLC, HLC, WDR, SSDR |
| **Wide Dynamic Range (dB)** | 120 |
| **Digital Noise Reduction** | SSNR V |
| **Defog** | Support |

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## 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 |
| **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,<br>Handover: PTZ preset |
| **Audio In** | | Selectable(mic in/line in) |
| **Audio Out** | | Line out |

## Analytics

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

## Network

| | | |
|---|---|---|
| **Ethernet** | | Metal shielded RJ-45(10/100BASE-T) |
| **Video Compression** | | H.265: Main,<br>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, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast), PIM-SM |
| **Application Programming Interface** | ONVIF | S, G, T |
| | Others | SUNAPI(HTTP API), Hanwha Vision Open Platform |

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## Network

| | |
|---|---|
| Direct Cloud Connection | Optional (needs gateway) |

## Security

| | |
|---|---|
| User authentication | Digest authentication |
| Network authentication | IEEE 802.1X(EAP-TLS, EAP-LEAP) |
| Secure Communication | HTTPS, 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) |
| 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 | -20°C~+55°C(-4°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) |
| Power Consumption | PoE | Max. 18W, typical 10.4W |

## Mechanical

| | |
|---|---|
| Color | Orange |
| Material | Aluminum |
| RAL Code | RAL2000-Yellow Orange |
| Product Dimensions | ø218.44x347.27mm(8.59x13.67") |
| Product Weight | 12,247g [27lbs] |

## Certifications & Standards

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

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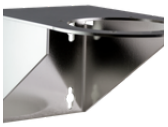
## Compatible Devices



HT-SD-CM



HT-SD-FP



HT-SD-WM



HT-SPMA-SD

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