



## V Series

# FE9191-H-V2

12MP Fisheye Panoramic AI  
Camera



## Technical Specifications

| System Information |                                 |
|--------------------|---------------------------------|
| CPU                | Multimedia SoC (System-on-Chip) |
| Flash              | 8 GB                            |
| RAM                | 2 GB                            |

| Camera Specifications         |                                                                                                                       |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Image Sensor                  | 1/2.3" Progressive CMOS in 4056x3040                                                                                  |
| Max. Resolution               | 2944x2944                                                                                                             |
| Lens Type                     | Fixed-focal                                                                                                           |
| Focal Length                  | f = 1.22mm                                                                                                            |
| Aperture                      | F2.0                                                                                                                  |
| Iris Type                     | Fixed iris                                                                                                            |
| Field of View                 | 180° (Horizontal)<br>180° (Vertical)<br>180° (Diagonal)                                                               |
| Shutter Time                  | 1/5 sec. to 1/32,000 sec.                                                                                             |
| WDR Technology                | WDR Pro                                                                                                               |
| Day/Night                     | Yes                                                                                                                   |
| Removable IR-cut filter       | Yes                                                                                                                   |
| Minimum Illumination          | 0.1 lux @ F2.0 (Color)<br><0.005 lux @ F2.0 (B/W)                                                                     |
| Pan/Tilt/Zoom Functionalities | ePTZ: 12x digital zoom (12x on IE plug-in)                                                                            |
| Storage                       | Seamless Recording to MicroSD/SDHC/SDXC card (1TB capacity supported) and recording to network-attached storage (NAS) |
| Built-in Installation Aids    | Pixel calculator                                                                                                      |

| Video              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compression        | H.265, H.264, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Maximum Frame Rate | 30fps @ 2944x2944 (WDR off)<br>20fps @ 2944x2944 (WDR on)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum Streams    | 3 video streams (up to 8 configurable profiles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| S/N Ratio          | 56.9 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Dynamic Range      | 120 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Video Streaming    | Adjustable resolution, quality and constant bit rate control, Smart Stream III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Image Settings     | <p>General settings<br/>video title and time stamp overlay, video orientation (flip, mirror), day/night settings</p> <p>anti-overexposure<br/>Image settings<br/>white balance, image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, 3DNR</p> <p>Exposure<br/>BLC, exposure control, AE speed adjustment, WDR</p> <p>Privacy mask<br/>Scheduled profile settings<br/>Pixel calculator</p>                                                                                                                                                  |
| Display Mode       | <p>Client Dewarping<br/>Ceiling mounted: 1O Fisheye, 1P Panoramic, 2P Two Panoramics, 1R One Region, 4R Four Regions, 1O3R One Fisheye Three Regions, 1O8R One Fisheye Eight Regions<br/>Wall mounted: 1O Fisheye, 1P Panoramic, 1R One Region, 4R Four Regions, 1P2R One Panoramic Two Regions, 1P3R One Panoramic Three Regions, 1O3R, One Fisheye Three Regions</p> <p>Local Dewarping<br/>Ceiling mounted: 1O Fisheye, 1P Panoramic, 2P Two Panoramics, 1R One Region, 4R Four Regions<br/>Wall mounted: 1O Fisheye, 1P Panoramic, 1R One Region, 4R Four Regions</p> |

| Audio            |                             |
|------------------|-----------------------------|
| Audio Capability | One-way Audio               |
| Compression      | G.711, G.726, MPEG-2 AAC-LC |
| Interface        | Built-in microphone         |
| Effective Range  | 5 meters                    |

| Network   |                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Users     | Live viewing for up to 10 clients                                                                                                                                                                                                                                                                                                 |
| Security  | Access list, Account block , Audit log, Configurable password strength protection, CSRF protection, Digest authentication, HTTPS , IEEE 802.1x, Secure boot, Session timeout, Signed firmware, Trend Micro IoT Security (Brute force attack event, Cyberattack event, Quarantine event), User access log, User account management |
| Protocols | 802.1X, ARP, Bonjour, CIFS/SMB, DDNS, DHCP, DNS, FTP, HTTP, HTTPS, ICMP, IGMPv3, IPv4, IPv6, NTP, PPPoE, QoS (CoS/DSCP), RTSP/RTP/RTCP, SMTP, SNMP, SSL, TCP/IP, TLS 1.2, UDP, UPnP                                                                                                                                               |
| Interface | 10 Base-T/100 Base-TX Ethernet (RJ-45)<br>*It is highly recommended to use standard CAT5e & CAT6 cables which are compliant with the 3P/ETL standard.                                                                                                                                                                             |
| ONVIF     | Profile G, S, T, M supported, specification available at <a href="http://www.onvif.org">www.onvif.org</a>                                                                                                                                                                                                                         |

| AI Analytics       |                                                      |
|--------------------|------------------------------------------------------|
| Compute Capability | SoC with built-in hardware deep learning accelerator |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vision Object Analytics            | <p>Object Detection<br/>People, Vehicle (4-wheeled, 2-wheeled), Human / Vehicle Bestshot, Path Extraction</p> <p>Attribute Extraction<br/>People (gender, clothing color, bag, hat), Vehicle (bike, bus, car, motorcycle, truck, color)</p> <p>Human face Bestshot, Re-Search Extraction</p>                                                                                                |
| Application                        | <p>Deep Learning VCA (Smart Motion Detection, Smart VCA)<br/>Smart VCA - Group 1<br/>Smart Motion Detection (Five-window video motion detection, People detection, Vehicle detection, Time filter), Smart VCA (Intrusion detection, Loitering detection, Line crossing detection)</p> <p>Smart VCA - Group 2<br/>Unattended object detection, Missing object detection, Crowd detection</p> |
| Application available with license | <p>Smart VCA - Group 3<br/>Running detection, Parking Violation Detection, Restricted Zone Detection</p> <p>*Support for more analytic applications and free trial, please visit VIVOTEK website.</p>                                                                                                                                                                                       |

## Solution Integration

|              |                                                          |
|--------------|----------------------------------------------------------|
| VADP Package | Stratocast, Trend Micro IoT Security (3-year free trial) |
|--------------|----------------------------------------------------------|

## Alarm and Event

|               |                                                                                                                                                                                                                                                                        |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event Trigger | Audio detection, camera tampering detection, cybersecurity events (brute force attack event, cyberattack event, quarantine event), manual trigger, motion detection, periodical trigger, recording notification, SD card life expectancy, shock detection, system boot |
| Event Action  | Event notification via audio clip*, email, HTTP, FTP, NAS server, SD card<br>File upload via email, HTTP, FTP, NAS server, SD card, Camera link                                                                                                                        |

## General

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectors            | <p>RJ-45 cable connector for 10/100 Mbps PoE network connection</p> <p>Audio input*</p> <p>Audio output*</p> <p>DC 12V power input*</p> <p>Digital input*</p> <p>Digital output* (DO+: 12V, 50mA; DO-: 30V, Open Drain, 1A)</p> <p>* Requires optional cable</p>                                                                                                                                                                                                                                               |
| LED Indicator         | System power and status indicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Power Input           | IEEE 802.3af PoE Class 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Power Consumption     | Max. 9 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Dimensions            | ø 150 x 68.2 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Weight                | 701 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Certifications        | <p>EMC<br/>CE (EN 55032 Class B, EN 55035), FCC (FCC Part 15 Subpart B Class B), RCM (AS/NZS CISPR32 Class B), VCCI (VCCI-CISPR 32 Class B), UKCA (BS EN 55032:2015+A11: 2020, BS EN 55035:2017+A11:2020, BS EN IEC 62368-1:2020+A11:2020), ICES-003 Issue 7<br/>BSMI (EMC: CNS 13438, Safety: CNS 14336-1)</p> <p>Safety:<br/>UL (UL62368-1)<br/>CB (IEC/EN 62368-1, IEC/EN 60950-22, IEC/EN 62471)</p> <p>IA<br/>BIS (IS 13252)<br/>BSMI (EMC: CNS 13438, Safety: CNS 14336-1)<br/>*IK10 (Metal Housing)</p> |
| Operating Temperature | <p>Starting Temperature: 0°C ~ 50°C (32°F ~122°F)</p> <p>Working Temperature: -10°C ~ 50°C (14°F ~122°F)</p>                                                                                                                                                                                                                                                                                                                                                                                                   |

|          |                         |
|----------|-------------------------|
| Humidity | 90% RH (non-condensing) |
|----------|-------------------------|

## System Requirements

|                  |                                                     |
|------------------|-----------------------------------------------------|
| Operating System | Microsoft Windows 10/8/7<br>Mac 10.12 (Chrome only) |
| Web Browser      | Chrome 58.0 or above<br>Internet Explorer 11        |
| Other Players    | VLC: 1.1.11 or above                                |

## Included Accessories

|                  |                                                                           |
|------------------|---------------------------------------------------------------------------|
| Packing Contents | Quick installation guide, alignment sticker, screw pack, mounting bracket |
|------------------|---------------------------------------------------------------------------|

## DORI (EN 62676-4 Standard)

|                                |                   |
|--------------------------------|-------------------|
| Detection (25PPM/ 8PPF)        | 31.5 m (103.3 ft) |
| Observation (63PPM/ 19PPF)     | 12.5 m (41 ft)    |
| Recognition (125PPM/ 38PPF)    | 6.3 m (20.7 ft)   |
| Identification (250PPM/ 76PPF) | 3.1 m (10.2 ft)   |