



## S Series

# FE9391-EV-V2-M12 (M)

12MP Fisheye Panoramic AI Camera



## Technical Specifications

### System Information

|       |                                 |
|-------|---------------------------------|
| CPU   | Multimedia SoC (System-on-Chip) |
| Flash | eMMC 8 GB                       |
| RAM   | DDR4 2 GB                       |

### Camera Specifications

|                         |                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------|
| Image Sensor            | 1/2.3" Progressive CMOS in 4056x3040                                                        |
| Max. Resolution         | 2816x2816                                                                                   |
| Lens Type               | Fixed-focal                                                                                 |
| Focal Length            | f = 1.18mm                                                                                  |
| Aperture                | F2.18                                                                                       |
| Iris Type               | Fixed iris                                                                                  |
| Field of View           | 180° ± 5° (Horizontal)<br>180° ± 5° (Vertical)                                              |
| Shutter Time            | 1/5 sec. to 1/32,000 sec.                                                                   |
| WDR Technology          | WDR Pro                                                                                     |
| Day/Night               | Yes                                                                                         |
| Removable IR-cut filter | Yes                                                                                         |
| Illuminators            | Built-in 940nm IR illuminators, effective up to 5 meters (50IRE) with Smart IR II, IR LED*4 |
| Minimum Illumination    | 0.1 lux @ F2.18 (Color)<br><0.005 lux @ F2.18 (B/W)<br>0 lux with IR illumination on        |

|                               |                                                                                                                       |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 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 @ 2816x2816 (WDR off)<br>20fps @ 2816x2816 (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<br/>* Available only by Plug-in free browser</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> |
| Display Resolution | <p>1O : 2816x2816, 2560x2560, 2048x2048, 1920x1920, 1536x1536, 1280x1280, 1024x1024, 768x768</p> <p>Local Dewarp Mode<br/>1P: 2816x704, 2560x640, 2048x512, 1920x480, 1536x384<br/>2P: 2816x2816, 2560x2560, 2048x2048, 1920x1920, 1536x1536<br/>1R: 1408x1408, 1280x1280, 1024x1024, 960x960, 768x768<br/>4R: 2816x2816, 2560x2560, 2048x2048, 1920x1920, 1536x1536</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 (M12, Female, 4pin D-coded)                                                                                                                                                                                                                                                                        |
| 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 |
|--------------------|------------------------------------------------------|

## Solution Integration

|                        |                                                                                                     |
|------------------------|-----------------------------------------------------------------------------------------------------|
| VADP Package           | Deep Learning VCA (Smart Motion Detection, Trend Micro IoT Security (3-year free trial), Stratocast |
| Video Motion Detection | Five-window video motion detection, people detection                                                |

## Alarm and Event

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

## General

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectors        | Single HL3 cable with M12 4pin D-coded, Female connector for 10/100 Mbps PoE network connection<br><br>Earth/grounding point hole x1<br>Venting holes with water-proof breathable membrane x1                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LED Indicator     | System power and status indicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power Input       | IEEE 802.3at PoE Class 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Power Consumption | Max. 18 W/9.55 W (IR on/off)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Dimensions        | ø 160 x 61.7 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Weight            | Approx. 930g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Certifications    | <p>EMC<br/>CE(EN 55032, EN 55035 Class A), FCC (FCC Part 15 Subpart B Class A), ICES-003 Issue 07, RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A), EMV06</p> <p>Safety<br/>UL (UL 62368-1), CB (IEC/EN 62368-1, IEC/EN 60950-22, IEC/EN 62471)</p> <p>Environment<br/>IK10 (IEC 62262), IP66/67 (IEC 60529), NEMA (NEMA 250 Type 4X)</p> <p>Railway<br/>EN 50155:2021(OT4/ST1), EN 50121-3-2, EN 60068-2-1, EN 60068-2-2, EN 61373, EN 45545-2, IEC 60571 Ed 3.0, IEC 62236-3-2 Ed 3.0, EN50121-4</p> <p>Vehicles<br/>ECE R118, E-Mark(ECE R10)</p> <p>BI<br/>BSMI (EMC: CNS 13438, Safety: CNS 14336-1)</p> |

|                       |                                                                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | Starting Temperature:<br>-40°C ~ 70°C (-40°F ~ 158°F)<br><br>Working Temperature:<br>-40°C ~ 70°C (-40°F ~ 158°F) (IR off)<br>-40°C ~ 60°C (-40°F ~ 140°F) (IR on) |
| Humidity              | 98% RH (non-condensing)                                                                                                                                            |
| Storage Temperature   | -40°C ~ 70°C (14°F ~ 158°F)                                                                                                                                        |

### System Requirements

|                  |                                                        |
|------------------|--------------------------------------------------------|
| Operating System | Microsoft Windows 11/10/8/7<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, desiccant bag |
|------------------|------------------------------------------------------------------------|

### DORI (EN 62676-4 Standard)

|                                |                  |
|--------------------------------|------------------|
| Detection (25PPM/ 8PPF)        | 30.3 m (99.4 ft) |
| Observation (63PPM/ 19PPF)     | 12.0 m (39.4 ft) |
| Recognition (125PPM/ 38PPF)    | 6.1 m (20.0 ft)  |
| Identification (250PPM/ 76PPF) | 3.0 m (9.8 ft)   |