



V Series

FE9391-EHV-V2 (1.18 mm)

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	2816x2816
Lens Type	Fixed-focal
Focal Length	f = 1.18mm
Aperture	F2.18
Iris Type	Fixed iris
Field of View	180° (Horizontal) 180° (Vertical) 180° (Diagonal)
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 IR illuminators, effective up to 20 meters (50IRE) with Smart IR II, IR LED*4
Minimum Illumination	0.1 lux @ F2.18 (Color) <0.005 lux @ F2.18 (B/W) 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) 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 video title and time stamp overlay, video orientation (flip, mirror), day/night settings</p> <p>anti-overexposure Image settings white balance, image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, 3DNR</p> <p>Exposure BLC, exposure control, AE speed adjustment, WDR</p> <p>Privacy mask Scheduled profile settings Pixel calculator</p>
Display Mode	<p>Client Dewarping 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 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 Ceiling mounted: 1O Fisheye, 1P Panoramic, 2P Two Panoramics, 1R One Region, 4R Four Regions Wall mounted: 1O Fisheye, 1P Panoramic, 1R One Region, 4R Four Regions</p>

Audio	
Audio Capability	Two-way Audio (full duplex)
Compression	G.711, G.726, MPEG-2 AAC-LC
Interface	<p>Built-in microphone External microphone input* External line output* * Requires optional cable</p>
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) *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 www.onvif.org

AI Analytics

Compute Capability	SoC with built-in hardware deep learning accelerator
Vision Object Analytics	<p>Object Detection People, Vehicle (4-wheeled, 2-wheeled), Human / Vehicle Bestshot, Path Extraction</p> <p>Attribute Extraction 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) Smart VCA - Group 1 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 Unattended object detection, Missing object detection, Crowd detection</p>
Application available with license	<p>Smart VCA - Group 3 Running detection, Parking Violation Detection, Restricted Zone Detection</p> <p>*Support for more analytic applications and free trial, please visit VIVOTEK website.</p>
AI-powered Image Enhancement	Smart IR III

Solution Integration

VADP Package	Trend Micro IoT Security (3-year free trial)
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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 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>* ordering</p>
LED Indicator	System power and status indicator
Power Input	IEEE 802.3at PoE Class 4
Power Consumption	Max.22.8W/10.75 W
Dimensions	ø 150 x 68.4 mm
Weight	701 g

Certifications	EMC CE (EN 55032 Class A, EN 55024), FCC (FCC Part 15 Subpart B Class A), VCCI (VCCI-CISPR 32 Class A)
	Safety UL (UL 62368-1), CB (IEC/EN 62368-1, IEC/EN 60950-22)
	Environment IK10 (IEC 62262), IP66 (IEC 60529), NEMA (NEMA 250 Type 4X)
	IA BIS (IS 13252) *IK10 (Metal Housing)
Operating Temperature	Starting Temperature: -20°C ~ 50°C (-4°F ~ 122°F) Working Temperature: -40°C ~ 55°C (-40°F ~ 131°F) (IR off) -40°C ~ 50°C (-40°F ~ 122°F) (IR on)
Humidity	90% RH (non-condensing)

System Requirements

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

Included Accessories

Packing Contents	Quick installation guide, alignment sticker, screw pack, desiccant bag
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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)