VIVOTEK’s FE9191 and FE9391-EV are the next generation of market-leading 12-Megapixel 360° panomorph network cameras, both featuring a detailed 12-Megapixel CMOS sensor which guarantees superb image quality. Utilizing the latest in panomorph lens technology for 180° panoramic view (wall mount) or 360° surround view (ceiling/wall mount) with zero blind spots, these cameras are able to provide comprehensive coverage of open areas such as airports, shopping malls, parking lots, retail stores, offices and more.

The FE9191 and FE9391-EV (IP66, IK10 rated) are the successors to FE8191 and FE8391-V in the VIVOTEK 360° surround view family. Both new models are equipped with a removable IR-cut filter and WDR Pro technology, allowing the cameras to maintain optimal image quality around the clock for unparalleled visibility under high-contrast lighting environments. 3D Noise Reduction technology enables the cameras to capture clear, polished video under low-light conditions. The FE9191 and FE9391-EV’s use of the latest in panomorph lens technology has led to much improved image quality with a huge drop in edge distortion. The FE9391-EV is also updated with the latest in IR illumination, VIVOTEK’s Smart IR II technology with Adaptive IR. Adaptive IR enables the FE9391-EV’s IR illuminators to adjust to the scene together or individually to provide the best possible IR image, reducing glaring hotspots and/or underexposed dark spots.

The FE9191 and FE9391-EV also now include a new wave of advanced Video Content Analyses (VCA) - Smart 360 VCA, including intrusion detection, crowd detection, and loitering detection. These features are the next steps in elevating surveillance cameras from image capturing devices to advanced notification instruments, allowing users to see more in smarter ways.

Key Features

- 12-Megapixel CMOS Sensor
- Real-time H.265, H.264 and MJPEG Compression (Triple Codec)
- 30 fps @ 2816x2816
- 1.29 mm Panomorph Lens for 180° Panoramic View and 360° Surround View
- Removable IR-cut Filter for Day & Night Function
- 360° 20M IR with Smart IR II (FE9391-EV)
- WDR Pro (120dB) to Provide Extreme Visibility in High Light Contrast Scenes
- Panoramic PTZ Function with Speed Dome Camera for Monitoring Detailed Regional View
- Trend Micro IoT Security within Standard Warranty Period
- Smart Motion Detection to Reduce False Alarms
- Smart 360 VCA (Intrusion Detection, Crowd Detection, Loitering Detection)
- ePTZ for Data Efficiency
- Support Client Side Dewarping
- Pixel Calculator for Image Clarity Measurement
- Vandal-proof IK10-rated and Weather-proof IP66-rated Housing (FE9391-EV)
## Technical Specifications

### Model
- FE9191: 12MP 360° Panomorph Camera
- FE9391-EV: 12MP 360° Panomorph Camera, 360° 20M IR, IP66, IK10, EN50155

### System Information
- CPU: Multimedia SoC (System-on-Chip)
- Flash: 256MB
- RAM: 1GB

### Camera Features
- **Image Sensor**: 1/1.7” Progressive CMOS in 4000x3000
- **Maximum Resolution**: 2816x2816
- **Lens Type**: Fixed-focal
- **Focal Length**: f = 1.29 mm
- **Aperture**: F2.2
- **Field of View**: 180° (horizontal), 180° (vertical), 180° (diagonal)
- **Shutter Time**: 1/5 sec. to 1/16,000 sec.
- **WDR Technology**: WDR Pro
- **Day/Night**: Removable IR-cut filter for day & night function
- **Minimum Illumination**: 0.18 Lux @ F2.2 [Color] <0.001 Lux @ F2.2 [B/W]
- **Pan/Tilt/Zoom Functionalities**: ePTZ: 12x digital zoom (12x on IE plug-in)
- **IR Illuminators**: FE9391-EV; Built-in IR illuminators, effective up to 20 meters with Smart IR II
- **On-board Storage**: Slot type: MicroSD/SDHC/SDXC card slot
- **Seamless Recording**

### Video
- **Compression**: H.265, H.264, MJPEG
- **Maximum Frame Rate**: 30 fps @ 2816x2816
- **Maximum Streams**: 4 Simultaneous Streams
- **S/N Ratio**: 42.9 dB
- **Dynamic Range**: 120 dB
- **Video Streaming**: Adjustable resolution, quality and bitrate, configurable video cropping for bandwidth saving, Smart Stream III
- **Image Settings**: Adjustable image size, quality and bit rate, time stamp, text overlay, flip & mirror, scheduled profile settings, configurable brightness/contrast/saturation/sharpness, pixel calculator, 3D-Noise reduction, white balance, exposure control, gain, backlight compensation, privacy masks, defog

### Audio
- **Audio Capability**: Two-way audio (full duplex)
- **Compression**: G.711, G.726

### Interface
- Built-in microphone
- External microphone input
- External line output

### Effective Range
- 5 meters

### Network
- **Users**: Live viewing for up to 10 clients
- **Protocols**: IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP, RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPOE, CoS, QoS, SNMP, 802.1X, SSL/TLS, ARP, CIFS/SMB
- **Interface**: 10 Base-T/100 Base-TX/1000 Base-T Ethernet (RJ-45)
  - If it is highly recommended to use standard CAT5e & CAT6 cables which are compliant with the 3P/ETL standard.
- **ONVIF**: Supported, specification available at www.onvif.org

### Intelligent Video
- **Smart Motion Detection**: Five-window video motion detection, people detection, time filter
- **Smart 360 VCA**: Intrusion detection, crowd detection, loitering detection
- **VADP Package**: Genetec Package, Trend Micro IoT Security, Smart Motion Detection, Amazon Kinesis Video Streams

### Alarm and Event
- **Alarm Triggers**: Motion detection, manual trigger, digital input, periodical trigger, system boot, recording notification, camera tampering detection, audio detection, MicroSD card life expectancy, cybersecurity events (block brute force attack, block cyber attack, quarantine event)
- **Alarm Events**: Event notification using digital output, HTTP, SMTP, FTP, NAS server and MicroSD card
  - File upload via HTTP, SMTP, FTP, NAS server and MicroSD card

### General
- **Connectors**: RJ-45 cable connector for 10/100/1000Mbps Network/PoE connection
  - Audio input *1
  - Audio output *1
  - DC 12V Power input
  - Digital input *1
  - Digital output *1
- **LED Indicator**: System power and status indicator
- **Power Input**: FE9191: DC12V, PoE 802.3at Class 2
  - FE9391-EV: DC12V, PoE 802.3at Class 4
- **Power Consumption**: FE9191: Max. 6.49 W
  - FE9391-EV: Max. 25 W
- **Dimensions**: FE9191: Ø 139 x 37 mm
  - FE9391-EV: Ø 160 x 62 mm
- **Weight**: FE9191: 345 g
  - FE9391-EV: 846 g
- **Casing**: FE9391-EV: IP66, IK10
- **Safety Certifications**: FE9191: CE, LVD, VCCI, C-Tick, UL, FCC Class B
  - FE9391-EV: CE, LVD, VCCI, C-Tick, UL, FCC Class A, EN50155
### Technical Specifications

#### Operating Temperature
- **FE9191:**
  - Starting Temperature: 0°C ~ 50°C (32°F ~ 122°F)
  - Working Temperature: -10°C ~ 50°C (14°F ~ 122°F)
- **FE9391-EV:**
  - Starting Temperature: -25°C ~ 50°C (-13°F ~ 122°F)
  - Working Temperature: -40°C ~ 50°C (-40°F ~ 122°F)

#### Humidity
- 90%

#### Warranty
- 36 months

#### System Requirements
- **Operating System:** Microsoft Windows 8/7
- **Web Browser:** Internet Explorer 10/11
- **Other Players:** VLC: 1.1.11 or above, QuickTime: 7 or above

#### Included Accessories
- Quick installation guide, warranty card, alignment sticker, desiccant bag, screw driver, screws pack, mounting bracket, I/O cable (Cable not included in North America)

#### Compatible Accessories

<table>
<thead>
<tr>
<th>Mounting Kits</th>
<th>AM-520 Dome adapter</th>
<th>AM-116/AM-117 Pendant pipe [20cm/40cm]</th>
<th>AM-114/AM-118 Pendant head</th>
<th>AM-S14 Adapter ring [for FE9191]</th>
</tr>
</thead>
</table>

### Dimensions

- **FE9191**
  - Ø139 mm
  - Ø160 mm
  - 63 mm

- **FE9391-EV**
  - Ø140 mm

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