



## V Series

# IB9399-EHV

8MP Bullet Camera



## Technical Specifications

### System Information

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

### Camera Specifications

|                               |                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------|
| Image Sensor                  | 1/1.8" Progressive CMOS                                                              |
| Max. Resolution               | 3840x2160 (8MP)                                                                      |
| Lens Type                     | Fixed-focal                                                                          |
| Focal Length                  | f = 4.2 mm                                                                           |
| Aperture                      | F1.6                                                                                 |
| Iris Type                     | Fixed Iris                                                                           |
| Field of View                 | 110.74° (Horizontal)<br>59.1° (Vertical)<br>131.0° (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 40 meters with Smart IR, IR LED*4          |
| Minimum Illumination          | 0.015 lux @ F1.6 (Color)<br><0.005 lux @ F1.6 (B/W)<br>0 lux with IR illumination on |
| Tilt Range                    | 80°                                                                                  |
| Rotation Range                | 350°                                                                                 |
| Pan/Tilt/Zoom Functionalities | ePTZ: 48x digital zoom (4x on IE plug-in, 12x built 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 | 30 fps @ 3840x2160 (8MP)                                                                                                                                                         |
| Maximum Streams    | 3 video streams (Up to 8 configurable profiles)                                                                                                                                  |
| Main Stream        | 30 fps @ 3840x2160, 3328x1872, 3072x1728, 2688x1520, 2560x1440, 1920x1080, 1280x720, 640x360 (16:9)                                                                              |
| 2nd Stream         | 30 fps @ 1920x1080, 1280x720, 640x360 (16:9)                                                                                                                                     |
| 3rd Stream         | 30 fps @ 1280x720, 640x360 (16:9)                                                                                                                                                |
| S/N Ratio          | 54 dB                                                                                                                                                                            |
| Dynamic Range      | 120 dB                                                                                                                                                                           |
| Video Streaming    | Adjustable resolution, quality and constant bit rate control, Smart Stream III                                                                                                   |
| Image Settings     | General settings<br>video title and time stamp overlay, video orientation (flip, mirror, rotation), day/night settings                                                           |
|                    | Illuminators<br>illuminators, anti-overexposure, VCA-based Smart IR III                                                                                                          |
|                    | Image settings<br>white balance, image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, 3DNR, EIS (built-in gyro sensor), scene mode (auto, deblur) |
|                    | Exposure<br>BLC, HLC, exposure control (exposure level, iris adjustment, exposure time, gain control, iris mode), AE speed adjustment, WDR                                       |
|                    | Focus<br>zoom, focus<br><br>Privacy mask<br>Pixel calculator<br>Scheduled profile settings                                                                                       |

| Audio            |                                                                          |
|------------------|--------------------------------------------------------------------------|
| Audio Capability | Two-way Audio (full duplex)                                              |
| Compression      | G.711, G.726, MPEG-2 AAC-LC                                              |
| Interface        | Built-in microphone<br>External microphone input<br>External line output |
| Effective Range  | 5 meters                                                                 |

| Network   |                                                                                                                                                                                                                                                                                                                                     |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Users     | Live viewing for up to 10 clients                                                                                                                                                                                                                                                                                                   |
| Security  | Access list, Password protection, Digest authentication, CSRF protection, HTTPS, IEEE 802.1x, Secure boot, Signed firmware, Trend Micro IoT Security (brute force attack event, cyberattack event, quarantine event), Built-in FIPS 140-2 Level 2 certified Trusted Platform Module (TPM), User access log, User account management |
| Protocols | 802.1X, ARP, Bonjour, CIFS/SMB, DDNS, DHCP, DNS, FTP/SFTP, HTTP, HTTPS, ICMP, IGMPv3, IPv4, IPv6, NTP, PPPoE, QoS (CoS/DSCP), RTSP/RTP/RTCP, SMTP, SNMP, SSL, TCP/IP, TLS 1.2/1.3, UDP, UPnP                                                                                                                                        |

|           |                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface | 10BASE-T/100BASE-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            | Object Detection: People<br>Vehicle (4-wheeled, 2-wheeled)<br>Human / Vehicle Bestshot<br>Attribute Extraction: People (gender, clothing color, bag, hat)<br>Path Extraction<br>Vehicle (bike, bus, car, motorcycle, truck, color)<br>Human face Bestshot<br>Re-Search Extraction                                                                                                                 |
| Applications                       | 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, Face detection)<br><br>Smart VCA - Group 2<br>Unattended object detection, Missing object detection, Crowd detection |
| Application available with license | Smart VCA - Group 3<br>Running detection, Parking Violation Detection, Restricted Zone Detection<br><br>*Support for more analytic applications and free trial, please visit VIVOTEK website.                                                                                                                                                                                                     |
| RealSight Engine                   | Smart IR III<br>Deblur<br>WDR<br>White Balance<br>Exposure Control                                                                                                                                                                                                                                                                                                                                |

## Solution Integration

|                        |                                                       |
|------------------------|-------------------------------------------------------|
| VADP Package           | Trend Micro (Default, 3-year free trial)              |
| Video Motion Detection | Motion Detection (Five-window video motion detection) |

## Alarm and Event

|               |                                                                                                                                                                                                                                                                                       |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Event Trigger | Motion detection, Camera tampering detection, Audio detection, Digital input, Manual trigger, Periodical trigger, System boot, Recording notification, SD card life expectancy, Shock detection, Cybersecurity events (brute force attack event, cyberattack event, quarantine event) |
| Event Action  | Event notification via email, HTTP, FTP/SFTP, NAS server, SD card, digital output, audio clip, camera link<br>File upload via email, HTTP, FTP/SFTP, NAS server, SD card                                                                                                              |

## General

|                   |                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectors        | RJ-45 cable connector for 10/100 Mbps Network/PoE connection<br>Audio line input<br>Audio line output<br>Digital input *1<br>Digital output *1 (DO+: 12V, 50mA; DO-: 30V, Open Drain, 1A) |
| LED Indicator     | System power and status indicator                                                                                                                                                         |
| Power Input       | IEEE 802.3af PoE Class 3                                                                                                                                                                  |
| Power Consumption | Max. 12.4W/9.6W (IR on/off)                                                                                                                                                               |
| Dimensions        | 92 (D) x 258.5 (H) mm                                                                                                                                                                     |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                | 1.03 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Certifications        | <p>EMC<br/>CE (EN 55032, EN 55035 Class A), UKCA (BS EN 55032/BS EN 55035 Class A), FCC (FCC Part 15 Subpart B Class A), RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A); IC (ICES-003 Issue 7, Class A)</p> <p>Safety<br/>UL (UL 62368-1), CB (IEC/EN 62368-1, IEC/EN 62471); UKCA (BS EN IEC 62368-1)</p> <p>Environment<br/>IK10 (IEC 62262), IP66, IP67 (IEC 60529)</p> <p>IA<br/>BIS (IS 13252), BSMI (EMC: CNS 13438, Safety: CNS 14336-1)</p> |
| Operating Temperature | <p>Starting Temperature:<br/>-20°C ~ 50°C (-4°F ~ 122°F)</p> <p>Working Temperature:<br/>-35°C ~ 60°C (-31°F ~ 140°F) (IR off)<br/>-35°C ~ 50°C (-31°F ~ 122°F) (IR on)</p>                                                                                                                                                                                                                                                                                      |
| Humidity              | 98% RH (non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Warranty              | 60 months                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### System Requirements

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

### Included Accessories

|                  |                                                                      |
|------------------|----------------------------------------------------------------------|
| Packing Contents | Quick installation guide, alignment sticker, screw pack, cable gland |
|------------------|----------------------------------------------------------------------|

### DORI (EN 62676-4 Standard)

|                                |                   |
|--------------------------------|-------------------|
| Detection (25PPM/ 8PPF)        | 85.5 m (280.5 ft) |
| Observation (63PPM/ 19PPF)     | 34.2 m (112.2 ft) |
| Recognition (125PPM/ 38PPF)    | 17.1 m (56.1 ft)  |
| Identification (250PPM/ 76PPF) | 8.5 m (27.9 ft)   |