



MS9321-EHV-V2

Multi-Sensor Panoramic Network Camera

18MP 30fps • 180° View • 30M IR • WDR Pro • Smart VCA

Technical Specifications

System Information

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| Model | MS9321-EHV-V2 |
| CPU | Multimedia SoC (System-on-Chip) |
| Flash | 8 GB |
| RAM | 8 GB |

Camera Features

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| Image Sensor | 1/2.8" Progressive CMOS in 2560*1920 x 4 |
| Max. Resolution | 6912x2624 (18MP) |
| Lens Type | Fixed-focal |
| Focal Length | f = 3.5 mm |
| Aperture | F2.0 |
| Iris Type | Fixed iris |
| Field of View | 180° (Horizontal) 62.5° (Vertical) 180° (Diagonal) |
| Shutter Time | 1/30 sec. to 1/32,000 sec. |
| WDR Technology | WDR Pro |
| Day/Night | Yes |
| Removable IR-cut Filter | Yes |
| IR Illuminators | Built-in IR Illuminators up to 30 meters with Smart IR , IR LED*4 |
| Minimum Illumination | 0.055 lux @ F2.0 (Color) 0.005 lux @ F2.0 (B/W) 0 lux with IR illumination on |
| Pan Range | ±90° |
| Tilt Range | 90° |



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| Storage | Seamless Recording to MicroSD/SDHC/SDXC card slot and recording to network-attached storage (NAS) |
| Video | |
| Video Compression | H.265, H.264, MJPEG |
| Maximum Frame Rate | 30 fps @ 6912x2624 (Deep Learning VCA off) 20 fps @ 6912x2624 (Deep Learning VCA on) |
| Maximum Streams | 4 video streams (Up to 9 configurable profiles) |
| S/N Ratio | 54 dB |
| Dynamic Range | 120 dB |
| Video Streaming | Adjustable resolution, quality and constrained bit rate control, Smart Stream III |
| Image Settings | General settings: video title and time stamp overlay, day/night settings; Illuminators: illuminators, anti-overexposure; Image settings: white balance (auto, fixed current, manual, panorama, snow-auto, snow-panorama), image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, highlight mask, 3DNR), scene mode (auto, delbur); Exposure: BLC, HLC, exposure control (exposure level, exposure time, gain control), AE speed adjustment, WDR; Privacy mask; Pixel calculator; Lens alignment (auto alignment); Scheduled profile settings |
| Audio | |
| Audio Capability | Two-way audio (Full duplex) |
| Audio Compression | G.711, G.726, MPEG-2 AAC-LC |
| Audio Interface | Built-in microphone External microphone Input External line output |
| Effective Range | 5 meters (internal mic) |
| 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/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 | 10 Base-T/100 BaseTX/1000 Base-T 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 supported, specification available at www.onvif.org |
| AI Analytics | |
| Compute Capability | SoC with built-in hardware deep learning accelerator |
| Vision Object Analytics | Object Detection: People, Vehicle (4-wheeled, 2-wheeled); Attribute Extraction: People (gender, clothing color, bag, hat), Vehicle (bike, bus, car, motorcycle, truck, color); Re-Search Extraction; Path Extraction |
| Application | Deep Learning VCA (Smart Motion Detection, Smart VCA) Smart Motion Detection (Five-window video motion detection, People detection, Vehicle detection, Time filter), Smart VCA (Intrusion detection, Loitering detection, Line crossing detection, Unattended object detection, Missing object detection, Face detection, Crowd detection) |
| Application available with license | Running detection, Parking Violation Detection, Restricted Zone Detection Support for more analytic applications and free trial, please visit vivotek.com/video-analytics |
| Solution Integration | |
| Applications | 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), digital input, manual trigger, motion detection, periodical trigger, PIR detection, recording notification, SD card life expectancy, shock detection, system boot, video loss, video restoration |
| Event Action | Event notification via audio clip, camera link, digital output, email, HTTP, FTP/SFTP, NAS server, SD card, push notification File upload via email, HTTP, FTP/SFTP, NAS server, SD card |



General

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| Connectors | RJ-45 cable connector for 10/100/1000 Mbps PoE network connection Audio input Audio output Digital input Digital output (DO+: 12V, 50mA; DO-: 30V, Open Drain, 1A) AC 24V power input Micro USB |
| LED Indicator | System power and status indicator |
| Power Input | AC 24V, IEEE 802.3at PoE Class 4 (Simultaneous Power Redundancy Supported) |
| Power Consumption | PoE: Max. 18.81 W AC 24V: Max. 26.4 W |
| Dimensions | 308 x 167 x 130 mm |
| Weight | 2.4 kg |
| Certifications | EMC: CE (EN 55032 Class A, EN 55035), UKCA (BS EN 55032: 2015 +A11: 2020, BS EN 55035: 2017 +A11: 2020), FCC (FCC Part 15 Subpart B Class A), RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A), ICES-003 Issue 7; Safety: UL (UL 62368-1), CB (IEC/EN 62368-1 including annex Y, IEC/EN 62471); Environment: IK10 (IEC 60529), IP66 (IEC 60529), IP6K9K (ISO 20653); IA: BIS (IS 13252), BSMI (EMC: CNS 15936, Safety: CNS 15598-1) |
| Operating Temperature | Starting Temperature: -30°C ~ 55°C (-22°F ~ 131°F) Working Temperature: -40°C ~ 55°C (-40°F ~ 131°F) (IR off) -40°C ~ 50°C (-40°F ~ 122°F) (IR on) |
| Humidity | 98% RH (non-condensing) |

System Requirements

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

Included Accessories

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| Packing Contents | Quick installation guide, alignment sticker, screw pack, junction box |
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DORI (EN 62676-4 Standard)

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|---------------------------|-------------------|
| Detect (25PPM/ 8PPF) | 73.3 m (240.5 ft) |
| Observe (63PPM/ 19PPF) | 29.3 m (96.2 ft) |
| Recognize (125PPM/ 38PPF) | 14.7 m (48.1 ft) |
| Identify (250PPM/ 76PPF) | 7.3 m (24 ft) |