



## V Series

# SD9161-H-V2

2MP Indoor AI PTZ Camera



## Technical Specifications

### System Information

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

### Camera Specifications

Image Sensor	1/2.8" Progressive CMOS
Max. Resolution	1920x1080 (2MP)
Lens Type	10x Optical Zoom, Auto Focus
Focal Length	5.1~51mm (10x zoom)
Aperture	F1.6~1.8
Iris Type	DC-Iris
Field of View	55.2° ~ 7.1° (Horizontal) 31.8° ~ 4.1° (Vertical) 62.4° ~ 8.1° (Diagonal)
Shutter Time	1/8 sec. to 1/30,000 sec.
WDR Technology	WDR Pro
Removable IR-cut filter	Yes
Minimum Illumination	0.14 Lux @ F1.6 (Color) 0.005 Lux @ F1.6 (B/W)
Pan Speed	0.05° ~ 360° /sec
Pan Range	360° endless
Tilt Speed	0.05° ~ 360° /sec
Tilt Range	180°
Preset Location	256 preset locations 128 presets per tour

Pan/Tilt/Zoom Functionalities	32x digital zoom (4x on IE plug-in, 8x built-in) Auto Pan mode Auto Patrol mode
Storage	Seamless Recording to MicroSD/SDHC/SDXC card (1TB capacity supported) and recording to network-attached storage (NAS)
Built-in Installation Aids	Remote focus, remote zoom

## Video

Compression	H265, H264, MJPEG
Maximum Frame Rate	30 fps @ 1920x1080 (WDR on) 60 fps @ 1920x1080 (WDR off)
Maximum Streams	3 video streams (Up to 8 configurable profiles)
S/N Ratio	73 dB
Dynamic Range	100 dB
Video Streaming	Adjustable resolution, quality and constrained bit rate control, Smart Stream III
Image Settings	<p>General settings video settings, video orientation (flip, mirror), day/night settings</p> <p>Overlay settings Illuminators illuminators, anti-overexposure</p> <p>Image settings white balance, image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, 3DNR, HLM, EIS(built-in gyro sensor), scene mode (auto)</p> <p>Exposure exposure strategy (measurement window, metering mode)</p> <p>exposure control (exposure level, iris adjustment, exposure time, gain control, iris mode), AE speed adjustment, WDR</p> <p>Focus zoom, focus</p> <p>Privacy mask Pixel calculator Scheduled profile settings</p>

## Audio

Audio Capability	Two-Way Audio (full duplex)
Compression	MPEG-2 AAC-LC, G.711, G.726
Interface	External line input External line output

## 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, NTCIP, 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 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 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, Vehicle (4-wheeled, 2-wheeled), Human / Vehicle Bestshot, Path Extraction  Attribute Extraction People (gender, clothing color, bag, hat), Vehicle (bike, bus, car, motorcycle, truck, color)  Human face Bestshot, Re-Search Extraction
Application	Deep Learning VCA (Smart Tracking Advanced) Smart VCA - Group 1 Smart VCA (Intrusion detection, Loitering detection, Line crossing detection, face detection)  Smart VCA - Group 2 Unattended object detection, Missing object detection
Application available with license	Smart VCA - Group 3 Parking Violation Detection, Restricted Zone Detection  *Support for more analytic applications and free trial, please visit VIVOTEK website.

## Solution Integration

VADP Package	Stratocast, 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, smart tracking advanced trigger, system boot, preset reached *Requires AO-009 cable
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 *Requires AO-009 cable

## General

Connectors	RJ-45 cable connector for 10/100Mbps Network/PoE connection Audio line input* Audio line output* AC/DC 24V power input Digital input*2* Digital output*1*  * Requires AO-009 cable
LED Indicator	System power and status indicator
Power Input	AC 24V*, DC 24V*, IEEE 802.3at PoE Class 4 (Simultaneous Power Redundancy Supported) * Requires AO-009 cable
Power Consumption	PoE Max: 17W AC/DC 24V Max: 17W
Dimensions	ø 172 x 157 mm

Weight	1 kg
Certifications	EMC CE (EN 55032 Class A, EN55035), UKCA (BS EN 55032 Class A, BS EN 55035), FCC (FCC Part 15 Subpart B Class A), IC (ICES-003 Issue7:2020 Class A), RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A)
	Safety UKCA (BS EN 62368-1:2020+A11:2020), UL (UL 62368-1), CB (IEC/EN 62368-1)
	IA BIS (IS 13252), BSMI
Operating Temperature	Starting Temperature: -10°C ~ 55°C (14°F ~ 131°F) Working Temperature: -10°C ~ 55°C (14°F ~ 131°F)
Humidity	98% 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 10/11
Other Players	VLC: 1.1.11 or above

## Included Accessories

Packing Contents	Mounting Adapter, quick installation guide, alignment sticker, L-wrench, Torx driver, power cable
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## DORI (EN 62676-4 Standard)

Detection (25PPM/ 8PPF)	Wide: 76.9 m (252.2 ft) Tele: 587.7 m (1928.1 ft)
Observation (63PPM/ 19PPF)	Wide: 30.5 m (100 ft) Tele: 233.2 m (765.1 ft)
Recognition (125PPM/ 38PPF)	Wide: 15.8 m (51.8 ft) Tele: 117.5 m (385.5 ft)
Identification (250PPM/ 76PPF)	Wide: 7.9 m (25.9 ft) Tele: 58.0 m (190.3 ft)