VIVOTEK
A Delta Group Company

S Series

TB9332-E (9 mm)

Thermal Bullet Network Camera

Technical Specifications

System Information	
CPU	Multimedia SoC (System-on-Chip)
Flash	16GB
RAM	1GB

Camera Specifications	
Image Sensor	Uncooled VOx Micro bolometer
Max. Resolution	Effective pixels: 640x512 Image scale up to: 1280x1024
Lens Type	Fixed-focal (Thermal lens)
Focal Length	f = 9 mm
Aperture	F1.0
Iris Type	Fixed iris
Field of View	48° (Horizontal) 38° (Vertical)
Pan/Tilt/Zoom Functionalities	ePTZ: 4x digital zoom
Storage	MicroSD/SDHC/SDXC card (256GB capacity supported)
Pixel Size	12 µm
Spectral Range	8 ~ 14 µm
Sensitivity	NETD < 40 mK

Video	
Compression	H.265, H.264
Maximum Frame Rate	25 fps @ 1280x1024
Maximum Streams	2 simultaneous streams
Main Stream	25fps @ 1280x1024, 1280x720, 640x512
2nd Stream	25fps @ 704x576 , 352x240,
Video Streaming	Adjustable resolution, CBR/VBR, Smart Encode
Image Settings	General settings video title and time stamp overlay, video orientation (flip, mirror, rotation) Thermal settings white balance, image adjustment (brightness, contrast, sharpness) Privacy mask Scheduled profile settings

Audio	
Audio Capability	Two-way audio
Compression	G.711, RAW_PCM
Interface	External microphone input, External line output

Network	
Users	Live viewing for up to 10 clients
Security	Access list, Password protection, user access log, user account management
Protocols	IPv4/IPv6, HTTP, RTSP/RTP/RTCP, TCP/UDP, DHCP, DNS, PPPOE, SMTP, HTTPS, 802.1x, QOS, NTP, TCP/IP, FTP, UPnP, DDNS, ICMP, IGMP
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 www.onvif.org

AI Analytics	
Compute Capability	SoC with built-in hardware deep learning accelerator (4T)
Application	Temperature measurement alarms (difference, threshold, section, rise), Early Fire Detection (Fire spot detection, Smoking detection) VCA (Intrusion, Single line crossing, Double line crossing, Loitering, Wrong way, Enter, Leave) Support VCA alarms triggering by person, car, person or car; Support temperature alarms triggering by ignoring person, car, person or car

Solution Integration	
Video motion detection	Smart motion detection

Alarm and Event	
Event Trigger	Motion detection, I/O alarm, Disk alarm, VCA alarm, Temperature alarm
Event Action	'Event notification via audio clip, digital output, email, FTP, SD card

General	
Connectors	RJ-45 cable connector for 10/100 Mbps Network/PoE connection Audio input Audio output DC 12V power input AC 24V power input Digital input *2 Digital output *2 BNC RS485
LED Indicator	System power and status indicator
Power Input	AC 24V, DC 12V, IEEE 802.3af PoE Class 2
Power Consumption	Max. 5W
Dimensions	ø141.8 x 367.4 mm
Weight	2350g
Certifications	EMC: CE (EN 55032, Class B), FCC (FCC Part 15 Subpart B), UKCA (BS EN 55032 Class B) Environment: IP66
Operating Temperature	Working Temperature: -40°C ~ 60°C (-40°F ~ 140°F)
Humidity	90%

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

Temperature Measurement	
Temperature Range	-20°C to 150°C (-4°F to 302°F)
Measurement Rule	Point, line, polygon (up to 20 rules in total)
Temperature Alarm	Threshold alarm, Temperature difference alarm, Temperature rise alarm, Section alarm
Accuracy	± 2°C / ±2%

Included Accessories	
Packing Contents	Quick installation guide, alignment sticker, screw pack, waterproof accessory bag, junction box, sunshield

VCA Detection Range	
VCA Detection Distance (Human: 1.8x0.5m)	47m (154.2ft)
VCA Detection Distance (Vehicle: 4x1.5m)	110m (360.9ft)

Temperature Measurement	
Object: 0.2x0.2m	30m (94.4 ft)

Fire Detection	
Object: 1x1m	375m (1230ft)
Object: 0.2x0.2m	75m (246ft)
Smoking Detection	32m (104ft)

Johnson's Criteria (Thermal image)	
Human 1.8x0.5m	
Detection (1.5 pixels)	375m (1230ft)
Recognition (6 pixels)	94m (308ft)
Identification (12 pixels)	47m (154ft)

Vehicle 4x1.5m	
Detection (1.5 pixels)	1150m (3772ft)
Recognition (6 pixels)	288m (944ft)
Identification (12 pixels)	144m (472ft)