



## S Series

# TB9332-E (50 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 = 50 mm
Aperture	F1.0
Iris Type	Fixed iris
Field of View	8° (Horizontal) 7° (Vertical)
Pan/Tilt/Zoom Functionalities	ePTZ: 4x digital zoom
Storage	MicroSD/SDHC/SDXC card (256GB capacity supported)
Pixel Size	12 $\mu$ m
Spectral Range	8 ~ 14 $\mu$ m
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	<p>General settings video title and time stamp overlay, video orientation (flip, mirror, rotation)</p> <p>Thermal settings white balance, image adjustment (brightness, contrast, sharpness)</p> <p>Privacy mask Scheduled profile settings</p>

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 <a href="http://www.onvif.org">www.onvif.org</a>

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

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 404.1 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)	280m (918.6ft)
VCA Detection Distance (Vehicle: 4x1.5m)	450m (1,476.4ft)

Temperature Measurement	
Object: 0.2x0.2m	167m (547.9ft)

Fire Detection	
Object: 1x1m	2083m (6833ft)
Object: 0.2x0.2m	417m (1368ft)
Smoking Detection	110m (360ft)

## Johnson's Criteria (Thermal image)

### Human 1.8x0.5m

Detection (1.5 pixels)	2081m (6827ft)
Recognition (6 pixels)	520m (1706ft)
Identification (12 pixels)	260m (853ft)

### Vehicle 4x1.5m

Detection (1.5 pixels)	6389m (20961ft)
Recognition (6 pixels)	1597m (5239ft)
Identification (12 pixels)	798m (2618ft)