



## 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)<br>7° (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<br>video title and time stamp overlay, video orientation (flip, mirror, rotation) |
|                 | Thermal settings<br>white balance, image adjustment (brightness, contrast, sharpness)              |
|                 | Privacy mask<br>Scheduled profile settings                                                         |

| Audio            |                                                    |
|------------------|----------------------------------------------------|
| Audio Capability | Two-way audio                                      |
| Compression      | G.711, RAW_PCM                                     |
| Interface        | External microphone input,<br>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)<br>*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        | Temperature measurement alarms (difference, threshold, section, rise),<br>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<br>Audio input<br>Audio output<br>DC 12V power input<br>AC 24V power input<br>Digital input *2<br>Digital output *2<br>BNC<br>RS485 |
| LED Indicator         | System power and status indicator                                                                                                                                                                |
| Power Input           | 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)<br>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<br>Mac 10.12 (Chrome only) |
| Web Browser         | Chrome 58.0 or above<br>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)   |