



# **S** TB9330-E

Thermal Bullet Network Camera



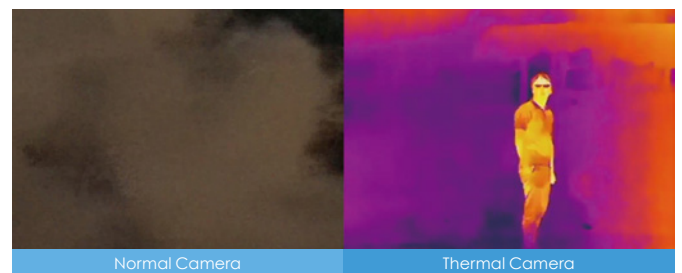
384x256 • NETD < 50 mk • H.265 • Trend Micro IoT Security • -50°C ~ 60°C • IP66/67 • IK10 • NEMA 4X

VIVOTEK's TB9330-E is an H.265 outdoor thermal bullet network camera designed to detect people and vehicles in wild weather, difficult lighting conditions, and any situation that create poor visibility. With heat based thermal imagery and lens options of 8.8/19/35/50mm, the TB9330-E supports long distance monitoring of vehicles up to 4,500m away even in complete darkness or under challenging climate conditions such as fog, rain, smoke and dust.

The TB9330-E offers 384x256 resolution with an uncooled thermal sensor and VIVOTEK's VCA (Video Content Analysis) to enhance perimeter protection and boarder security. This camera is also embedded with Trend Micro IoT Security software to provide users with higher levels of network protection. With an IP66, IP67, IK10 and NEMA 4X-rated rugged design, the TB9330-E will withstand shock & vibration, humidity, dust, and even extreme temperature fluctuations to maintain stable and reliable video no matter how harsh the environment.

## Key Features

- Uncooled VOx Infrared Detector
- 384x256 Resolution
- NETD < 50 mk @ F1.0
- H.265 Compression Technology
- Trend Micro IoT Security
- Two-way Audio
- Supports ONVIF Standard to Simplify Integration and Enhance Interoperability
- UL Certification
- Weather-proof IP66/IP67, Vandal-proof IK10 and NEMA 4X-rated Housing
- VIVOTEK VCA (Video Content Analysis) Support



Infrared thermal image through fog and smoke.

## Technical Specifications

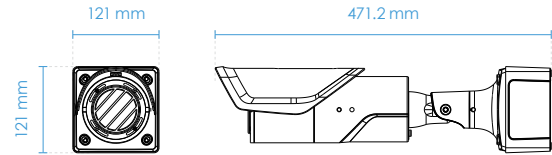
|                               |   |                          |   |
|-------------------------------|---|--------------------------|---|
| Model                         | TB9330-E(8.8mm)<br>TB9330-E(19mm)<br>TB9330-E(35mm)<br>TB9330-E(50mm)   | Compression              | G.726, G.711  |
| <b>System Information</b>     |   | Interface                | External microphone input<br>External line output   |
| CPU                           | Multimedia SoC (System-on-Chip)   | <b>Network</b>           |   |
| Flash                         | 128MB   | Users                    | Live viewing for up to 10 clients   |
| RAM                           | 512MB   | Protocols                | 802.1X, ARP, CIFS/SMB, CoS, DDNS, DHCP, DNS, FTP, HTTP, HTTPS, ICMP, IGMP, IPv4, IPv6, NTP, PPPoE, QoS, RTSP/RTP/RTCP, SMTP, SNMP, SSL, TCP/IP, TLS, UDP, UPnP  |
| <b>Camera Features</b>        |   | 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.   |
| Image Sensor                  | Uncooled VOx infrared detector  | ONVIF                    | Supported, specification available at <a href="http://www.onvif.org">www.onvif.org</a>  |
| Maximum Resolution            | Effective pixels: 384x256<br>Image scale up to: 960x640   | <b>Intelligent Video</b> |   |
| Pixel Size                    | 17 µm   | Video Motion Detection   | Five-window video motion detection  |
| Spectral Range                | 8 ~ 14 µm   | VCA                      | Line crossing detection, field detection, loitering detection   |
| Sensitivity                   | NETD < 50 mk  | VADP Package             | Genetec package, Trend Micro IoT Security, Stratocast   |
| Lens Type                     | Fixed-focal (Thermal Lens)  | <b>Alarm and Event</b>   |   |
| Focal Length                  | TB9330-E(8.8mm): f = 8.8 mm<br>TB9330-E(19mm): f = 19 mm<br>TB9330-E(35mm): f = 35 mm<br>TB9330-E(50mm): f = 50 mm  | Alarm Triggers           | Motion detection, manual trigger, digital input, periodical trigger, system boot, recording notification, camera tampering detection, audio detection, SD card life expectancy, cybersecurity events (block brute force attack, block cyber attack, quarantine event) |
| Aperture                      | F1.0  | Alarm Events             | Event notification via digital output, email, HTTP, FTP, NAS server, SD card, push notification<br>File upload via email, HTTP, FTP, NAS server, SD card  |
| Auto-iris                     | Fixed-iris  | <b>General</b>           |   |
| Field of View                 | TB9330-E(8.8mm):<br>38.3° (Horizontal)<br>26.1° (Vertical)<br>45.4° (Diagonal)<br>TB9330-E(19mm):<br>18.3° (Horizontal)<br>12.3° (Vertical)<br>21.9° (Diagonal)<br>TB9330-E(35mm):<br>10° (Horizontal)<br>6.7° (Vertical)<br>12° (Diagonal)<br>TB9330-E(50mm):<br>7° (Horizontal)<br>4.7° (Vertical)<br>8.4° (Diagonal) | Connectors               | RJ-45 cable connector for 10/100Mbps Network/PoE connection<br>Audio input<br>Audio output<br>DC 12V power input<br>AC 24V power input<br>Digital input*1<br>Digital output*1<br>BNC<br>RS485   |
| Pan/Tilt/Zoom Functionalities | ePTZ: 20x digital zoom<br>(4x on IE plug-in, 5x built-in)   | LED Indicator            | System power and status indicator   |
| On-board Storage              | Slot type: MicroSD/SDHC/SDXC card slot<br>Seamless Recording  | Power Input              | DC 12V<br>AC 24V (Redundant Power)<br>IEEE 802.3at PoE Class 4  |
| <b>Video</b>                  |   | Power Consumption        | PoE: Max. 12.5 W<br>DC 12V: Max. 10 W<br>AC 24V: Max. 11 W  |
| Compression                   | H.265, H.264, MJPEG   | Dimensions               | TB9330-E(8.8mm):<br>121 x 121 x 471.2 mm (with junction box)<br>TB9330-E(19mm):<br>121 x 121 x 452.2 mm (with junction box)<br>TB9330-E(35mm)/(50mm):<br>121 x 121 x 455.6 mm (with junction box)   |
| Maximum Frame Rate            | 30 fps @ 384x256  | <b>Audio</b>             |   |
| Maximum Streams               | 4 simultaneous streams  | Audio Capability         | Two-way Audio (full duplex)   |
| Video Streaming               | Adjustable resolution, quality and constant bit rate control, Smart Stream II   |                          |   |
| Image Settings                | Time stamp, text overlay, flip & mirror, configurable brightness/contrast/sharpness   |                          |   |

## Technical Specifications

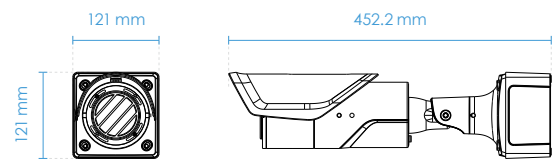
|                             |  |
|-----------------------------|--|
| Weight                      | TB9330-E(8.8mm): 2,080 g<br>TB9330-E(19mm): 2,000 g<br>TB9330-E(35mm): 2,080 g<br>TB9330-E(50mm): 2,080 g  |
| Casing                      | IP66, IP67, IK10(Metal Housing), NEMA 4X   |
| Safety Certifications       | CE, LVD, FCC Class A, VCCI, C-Tick, UL, EN50121-4  |
| Operating Temperature       | Start Temperature:<br>-40°C ~ 60°C (-40°F ~ 140°F)<br>Working temperature:<br>-50°C ~ 60°C (-58°F ~ 140°F) |
| Humidity                    | 90%  |
| Warranty                    | 36 months  |
| <b>System Requirements</b>  |  |
| Operating System            | Microsoft Windows 8/7<br>Mac 10.12 (Chrome only)   |
| Web Browser                 | Internet Explorer 10/11<br>Chrome version 58 or above  |
| Other Players               | VLC: 1.1.11 or above<br>QuickTime: 7 or above  |
| <b>Included Accessories</b> |  |
| Others                      | Quick installation guide, warranty card,<br>screw pack, alignment sticker, junction box                    |

## Dimensions

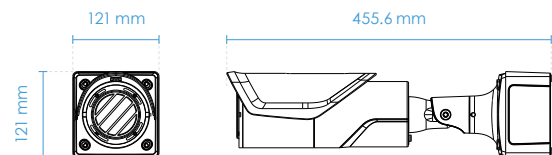
### • TB9330-E(8.8mm)



### • TB9330-E(19mm)



### • TB9330-E(35mm)/(50mm)



## Compatible Accessories

### Mounting Kits



AM-312  
Pole Mount Adapter



AM-412  
Corner Mount Adapter



AM-719  
Junction Box (Standard Package)

## Coverage Table

| Detection Ranges                 |                            |                  |                    |                     |                     |
|----------------------------------|----------------------------|------------------|--------------------|---------------------|---------------------|
| Resolution                       |                            | 384x256          |                    |                     |                     |
| Focal Length                     |                            | 8.8 mm           | 19 mm              | 35 mm               | 50 mm               |
| FOV                              | Horizontal                 | 38.3°            | 18.3°              | 10°                 | 7°                  |
|                                  | Vertical                   | 26.1°            | 12.3°              | 6.7°                | 4.7°                |
| Human<br>1.8 x 0.5 m (5 x 1 ft)  | Detection (1.5 pixels)     | 262 m (859 ft)   | 566 m (1,856 ft)   | 1,043 m (3,422 ft)  | 1,490 m (4,888 ft)  |
|                                  | Recognition (6 pixels)     | 66 m (216 ft)    | 142 m (465 ft)     | 261 m (856 ft)      | 373 m (1,223 ft)    |
|                                  | Identification (12 pixels) | 33 m (108 ft)    | 71 m (232 ft)      | 130 m (426 ft)      | 186 m (610 ft)      |
| Vehicle<br>4 x 1.5 m (13 x 4 ft) | Detection (1.5 pixels)     | 801 m (2,627 ft) | 1,729 m (5,672 ft) | 3,184 m (10,446 ft) | 4,549 m (14,924 ft) |
|                                  | Recognition (6 pixels)     | 200 m (656 ft)   | 432 m (1,416 ft)   | 796 m (2,611 ft)    | 1,137 m (3,730 ft)  |
|                                  | Identification (12 pixels) | 100 m (328 ft)   | 216 m (708 ft)     | 398 m (1,305 ft)    | 569 m (1,866 ft)    |

Note: The detection ranges are calculated using Johnson's criteria and may vary under different environmental variables.

| Standard VCA Ranges              |  |               |                |                  |                  |
|----------------------------------|--|---------------|----------------|------------------|------------------|
| Resolution                       |  | 384x256       |                |                  |                  |
| Focal Length                     |  | 8.8 mm        | 19 mm          | 35 mm            | 50 mm            |
| Human<br>1.8 x 0.5 m (5 x 1 ft)  |  | 33 m (108 ft) | 71 m (232 ft)  | 130 m (426 ft)   | 186 m (610 ft)   |
| Vehicle<br>4 x 1.5 m (13 x 4 ft) |  | 100 m (328ft) | 216 m (708 ft) | 398 m (1,305 ft) | 569 m (1,866 ft) |

Note: The detection ranges are the theoretical values and may vary under different environmental variables.