

SN-TPS4157EV-F (II)

Bi-spectrum Security Network Speed Dome Camera



Key Features

- Bi-spectrum: 384 × 288 thermal and 4 MP visible sensor
- 12 μm VOx uncooled thermal sensor, NETD ≤ 20 mK
- Optional fixed thermal lenses: 5 / 7 / 15 mm; 40x optical zoom visible lens
- Supports human/vehicle detection; smoking, smoke and flame detection, and fire spot detection
- Intelligent analytics: intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, leave area, and people counting
- Temperature monitoring and exception alarms
- Temperature measurement: spot, line, and area
- Temperature range: -20 °C to 150 °C; accuracy ±8 °C
- Smart tracking: cold/hot spot tracking, human/vehicle auto-tracking
- Smart IR illumination, up to 300 m
- Smart rain-sensing wiper; NDAA compliant, IP66

Specifications

| Camera | | |
|---------------------------|--|--|
| | Thermal | Visible |
| Image Sensor | Vanadium Oxide Uncooled Focal Plane Arrays | 1/1.8" CMOS |
| Max Resolution | Sensor is 384×288. Image can be scaled up to 1280×720 | 2688(H) × 1520(V) |
| Pixel Pitch | 12 μm | N/A |
| Spectral Range | 8 to 14 μm | N/A |
| NETD | ≤ 20mK | N/A |
| Shutter Speed | N/A | 1/5 to 1/20,000s |
| Min Illumination | N/A | Color: 0.001 Lux @(F1.5, AGC ON), B/W: 0.0005 Lux @(F1.5, AGC ON), 0 Lux with IR on |
| Day & Night | N/A | Auto (ICR) |
| Lens | | |
| | Thermal | Visible |
| Lens Type | Fixed lens | Motorized zoom lens |
| Focal Length | 5 mm, 7 mm, 15 mm optional | 6.27 to 251 mm, 40x optical zoom |
| Max. Aperture | F1.0 | F1.5 to F4.8 |
| Field of View (FOV) | 5 mm, H: 56°, V: 40°; 7 mm, H: 44°, V: 33°; 15 mm, H: 21°, V: 16° | H: 60.7° to 2.33°, V: 36.8° to 1.38° |
| Focus Control | Free-focus | Auto / Manual |
| Illuminator | | |
| Type | IR | |
| IR wavelength | 850 nm | |
| Distance | Up to 300 m (984.25 ft) | |
| Control | Auto / Manual | |
| Intelligent Analytics | | |
| | Thermal | Visible |
| AI Multi-Target | Supports human/vehicle detection. | Supports human/vehicle detection. |
| Intelligent Analysis | Intrusion, smart motion detection, single/double line crossing, loitering, wrong-way detection, and enter/leave area. - Supports accurate target classification (human/vehicle) | Intrusion, smart motion detection, single/double line crossing, loitering, wrong-way detection, and enter/leave area. - Supports accurate target classification (human/vehicle) |
| Smoke and Flame Detection | N/A | Supported |

| People Counting | Supported | Supported |
|-----------------------|---|---|
| Smoking Detection | Supported | N/A |
| Fire Spot Detection | Supported | N/A |
| Video & Audio | | |
| | Thermal | Visible |
| Main Stream | 1280×720, D1, 384×288 | 2688×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 |
| Sub Stream | D1, 384×288, CIF | D1, VGA |
| Frame Rate | Up to 25fps | Up to 25/30fps |
| Bit Rate Control | CBR/VBR | CBR/VBR |
| Bit Rate | Main stream: 100 Kbps to 8 Mbps, Sub stream: 100 Kbps to 6 Mbps | Main Stream: 100 Kbps to 16 Mbps, Sub Stream: 100 Kbps to 6 Mbps |
| Smart Encoding | Supported | Supported |
| Audio Compression | G.711 A-law, G.711 μ-law, RAW_PCM | G.711 A-law, G.711 μ-law, RAW_PCM |
| Audio Bit Rate | 64 Kbps (G.711), 128 Kbps (RAW_PCM) | 64 Kbps (G.711), 128 Kbps (RAW_PCM) |
| Image | | |
| | Thermal | Visible |
| Image Adjustment | Brightness, Contrast, Sharpness | Brightness, Saturation, Contrast, Sharpness |
| Scene Mode | Mirror | Indoor, Outdoor, Mirror |
| Pseudo-color Setting | Up to 17 colors (White-hot / Black-hot / Rainbow / Iron red / HSV / Bone / Cool / Copper / Fire-hot / Pink / Spring / Summer / Autumn / Winter / Jet / Flame / Rose - Bengal) | N/A |
| FFC Control | Auto / Manual | N/A |
| Exposure Mode | N/A | Auto / Manual |
| White Balance | N/A | Auto / Tungsten / Fluorescent / Daylight / Shadow / Manual |
| Day/Night Setting | N/A | Auto / Day / Night / Timer |
| Noise Reduction | 2D/3D DNR | 2D/3D DNR |
| Image Enhancement | N/A | HLC, BLC, Defog, WDR |
| Wide Dynamic Range | N/A | True WDR 120dB |
| OSD | Up to 8 OSD | Up to 8 OSD |
| Privacy Masking | Up to 4 areas | Up to 4 areas |
| Thermal Function | | |
| Temperature Range | -20°C to 150°C (-4°F to 302°F) | |
| Accuracy | ±8°C | |
| Temperature Detection | 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line). | |

| | |
|-----------------------------------|--|
| Temperature Alarm | Temperature difference alarm, Threshold alarm, Temperature rise alarm |
| Temperature Display | Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature |
| Image Fusion | Fusion view of thermal view and overlaid details of the optical channel |
| PTZ | |
| Pan/Tilt Range | Pan: 0° to 360° endless, Tilt: -10° to 90° (auto-flip) |
| Pan Speed | Pan: 0.01° to 300°/s, preset speed: 300°/s |
| Tilt Speed | Tilt: 0.01° to 240°/s, preset speed: 240°/s |
| Preset Accuracy | ≤ 0.2° |
| Preset | 400 |
| Track | 6 tracks |
| Scan | 12 scans |
| Tour | 12 tours, up to 32 presets per tour |
| Intelligent Tracking | Supported (Cold/hot spot tracking, human/vehicle tracking) |
| Power-Off Memory | Supported |
| 3D Positioning | Supported |
| PTZ Status Display | Supported |
| Idle Motion | The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run. |
| Event | |
| Alarm Triggers | IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Abnormal sound detection |
| Event Actions | Alarm record, Alarm output, FTP upload, SMTP upload, Audible alarm output |
| Network | |
| Protocols | IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTCP/RTP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, ICMP, IGMP, SMT, 802.1x, SNMP, Multicast |
| Application Programming Interface | ONVIF (Profile S/T/G/M), SDK, CGI |
| Max Concurrent Streams | 10 channels |
| User/Host Level | 32+ users, 3 levels: Administrator, Operator, Media user |
| Web Viewer | <IE11, Chrome, Firefox, Microsoft Edge |
| Security | |
| OS / Firmware Protect | Encrypted firmware, Signed firmware |
| User Authentication | Digest authentication, Prevent brute-force attack |
| Network Authentication | IEEE 802.1X (EAP-TLS) |
| Secure Communication | HTTPS, WSS (WebSocket Secure), SRTP |
| Access Control | IP-based access control, Auto logout |
| Data Protect | Encryption credentials |

| | | | | |
|---|--|-------------------|----------------------|----------------------|
| Audit | Access / System / Event Log management | | | |
| Supply Chain Security | SBOM | | | |
| Interface | | | | |
| Network Interface | RJ-45 Ethernet (10/100BASE-T) | | | |
| Audio Interface | 1 input, 1 output | | | |
| Alarm Interface | 7 inputs, 2 outputs | | | |
| Control Interface | RS-485 | | | |
| CVBS Output | Supported | | | |
| SD Card Slot | Built-in MicroSD slot, supports up to 1 TB | | | |
| General | | | | |
| Language | English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English | | | |
| Power Supply | 24 VAC / 36 VDC / PoE++ (802.3bt), Standard Equipped: 36VDC | | | |
| Power Consumption | Max 45 W | | | |
| Operating Temperature | -40°C to 60°C (-40°F to 140°F) | | | |
| Operating Humidity | 0 to 95% RH (non-condensing) | | | |
| Ingress Protection | IP66 | | | |
| Wiper | Supported | | | |
| Certifications | CE-EMC - EN 55032, EN IEC 61000-6-4, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 CE-LVD - EN IEC 62368-1 FCC 47 CFR Part 15 Subpart B | | | |
| Material | Metal | | | |
| Dimensions | φ226 × 363 mm (φ8.9 × 14.29 inch) | | | |
| Net Weight | Approx. 6 kg (13.2 lb) | | | |
| DORI Distance (EN62676-4 standard) | | | | |
| Detect | 95 to 3,515 m (311.68 to 11,532.15 ft) | | | |
| Observe | 38 to 1,406 m (124.67 to 4,612.86 ft) | | | |
| Recognize | 19 to 703 m (62.34 to 2,306.43 ft) | | | |
| Identify | 9.5 to 351.5 m (31.17 to 1,153.22 ft) | | | |
| Thermal DRI Distance | | | | |
| Thermal Lens | 5 mm | 7 mm | 15 mm | 25 mm |
| Detection (Human: 1.8×0.5 m) | 208 m (682.4 ft) | 292 m (958.0 ft) | 625 m (2,050.5 ft) | 1,042 m (3,418.6 ft) |
| Detection (Vehicle: 4×1.5 m) | 639 m (2,096.5 ft) | 894 m (2933.1 ft) | 1,917 m (6,289.4 ft) | 3,194 m (10,479 ft) |
| Recognition (Human: 1.8×0.5 m) | 52 m (170.6 ft) | 73 m (239.5 ft) | 156 m (511.8 ft) | 260 m (853 ft) |

| | | | | |
|--------------------------------------|------------------|------------------|--------------------|--------------------|
| Recognition (Vehicle: 4×1.5 m) | 160 m (524.9 ft) | 224 m (734.9 ft) | 479 m (1,571.5 ft) | 799 m (2,621.4 ft) |
| Identification (Human: 1.8×0.5 m) | 26 m (85.3 ft) | 36 m (118.1 ft) | 78 m (255.9 ft) | 130 m (426.5 ft) |
| Identification (Vehicle: 4×1.5 m) | 80 m (262.5 ft) | 112 m (367.5 ft) | 240 m (787.4 ft) | 399 m (1,309 ft) |

Note:

Distances are calculated based on Johnson's Criteria.

Detection: Object must be covered by ≥1.5 pixels.

Recognition: Object must be covered by ≥6 pixels.

Identification: Object must be covered by ≥12 pixels.

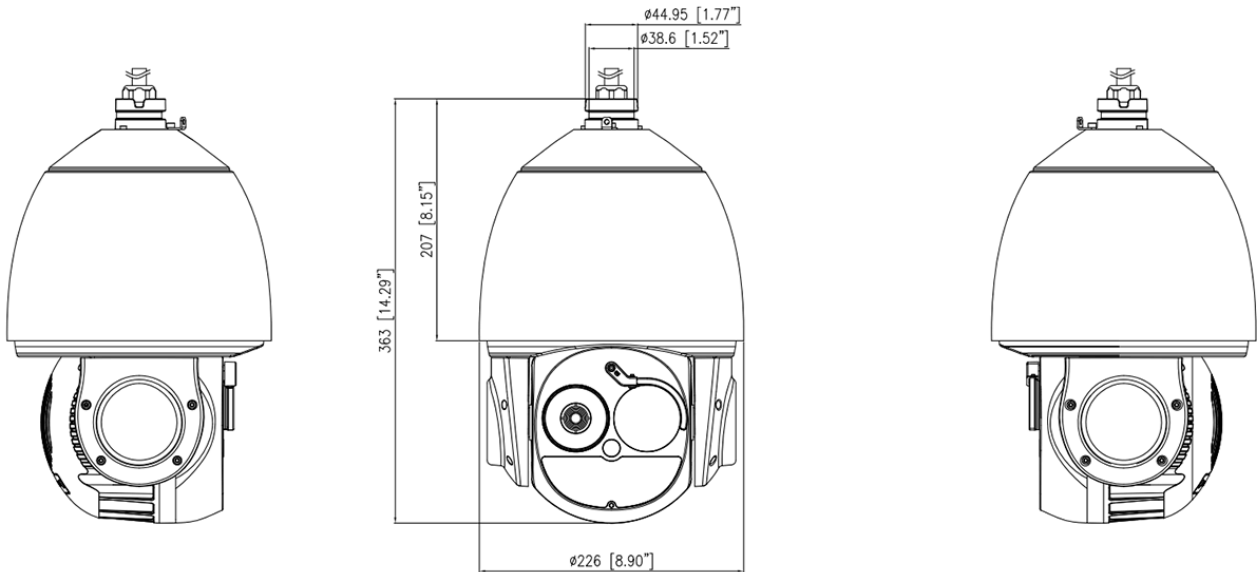
Thermal Smart Detection

| Lens | 5 mm | 7 mm | 15 mm | 25 mm |
|--|------------------|------------------|--------------------|----------------------|
| VCA Detection (Human: 1.8×0.5 m) | 45 m (147.6 ft) | 65 m (213.3 ft) | 110 m (360.9 ft) | 170 m (557.74 ft) |
| VCA Detection (Front/Rear of Vehicle: 4×1.5 m) | 50 m (164 ft) | 80 m (262.5 ft) | 140 m (459.3 ft) | 250 m (820.2 ft) |
| Temperature Measurement (1×1 m) | 83 m (272.3 ft) | 117 m (383.9 ft) | 250 m (820.2 ft) | 417 m (1,368.1 ft) |
| Temperature Measurement (0.2×0.2 m) | 17 m (55.8 ft) | 23 m (75.5 ft) | 50 m (164 ft) | 83 m (272.3 ft) |
| Fire Detection (1×1 m) | 208 m (682.4 ft) | 292 m (958 ft) | 625 m (2,050.5 ft) | 1,042 m (3,418.6 ft) |
| Fire Detection (0.2×0.2 m) | 42 m (137.8 ft) | 58 m (190.3 ft) | 125 m (410.1 ft) | 208 m (682.4 ft) |

Note:

Values are for reference only. Actual detection range may vary with atmospheric conditions, target size, and installation environment.

Dimensions (mm)



Accessories

Optional:



SN-CBK506B
Wall Mount



SN-BK348A
Ceiling Mount



SN-BK605
Corner Mount



SN-BK604B
Pole Mount



SN-BK367
Junction Box



SN-BK358
Corner Mount



SN-BK359
Pole Mount