

SN-TPT6436LPZ-M

Thermal & Optical Bi-spectrum PTZ Camera



Key Features

- 640 × 512 thermal resolution, 12 µm VOx UFPA, NETD ≤ 40 mK
- Thermal lens options: 75 / 100 mm; Visible lens: 37x optical zoom
- Supports human/vehicle detection; smoke & flame, and fire point detection
- Intelligent analytics: Intrusion, single/double line crossing, loitering, wrong-way, enter/leave area detection, smart motion detection, and people counting
- Supports 3 temperature measurement rule types: spot, line, and area
- Temperature measurement range: 20°C to 150°C, accuracy: ±2°C / ±2%
- NDAA Compliance, IP66-rated protection

Specifications

| Camera | | |
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| | Thermal | Visible |
| Image Sensor | Vanadium Oxide Uncooled Focal Plane Arrays | 1/1.8" STARVIS CMOS |
| Max Resolution | Sensor is 640×512, Image can be scaled up to 1280×1024 | 4MP, 2592(H) × 1520(V) |
| Pixel Pitch | 12 μm | N/A |
| Spectral Range | 8 to 14 μm | N/A |
| NETD | ≤ 40mK | 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 illuminator on |
| Day & Night | N/A | Auto (ICR) |
| Lens | | |
| | Thermal | Visible |
| Lens Type | Fixed lens | Motorized zoom lens |
| Focal Length | 75 mm, 100 mm optional | 6.8 to 251 mm, 37x optical zoom |
| Max. Aperture | F1.0 | F1.5 |
| Field of View (FOV) | 75 mm, H: 6°, V: 5° 100 mm, H: 4.3°, V: 3.5° | H: 60.7° to 2.33°, V: 36.8° to 1.38° |
| Focus Control | Motorized focus | Auto / Manual |
| Illuminator | | |
| Type | Laser | |
| IR wavelength | 850 nm | |
| Distance | Up to 800 m (2,624.7 ft) | |
| Control | Auto / Manual | |
| Intelligent Analytics | | |
| | Thermal | Visible |
| AI Multi-Target | Human and Vehicle detection | Face / Human / Vehicle detection and capture |
| Intelligent Analysis | Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection Support alarm triggering by specified target types (human and vehicle) | Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, illegal parking , Smart Motion Detection Support alarm triggering by specified target types (human and vehicle) |

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| Smoke and Flame Detection | N/A | Supported |
| People Counting | Supported | Supported |
| Fire Spot Detection | Supported | N/A |
| Video & Audio | | |
| | Thermal | Visible |
| Resolution | Stream1: 1280×1024, 1280×720, 640×512 Stream2: D1, CIF | Stream1: 2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 Stream2: D1, VGA, CIF Stream3: VGA, CIF, QVGA |
| 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 | Stream1: 200 Kbps to 12 Mbps Stream2: 100 Kbps to 6 Mbps Stream3: 100 Kbps to 3 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 |
| Privacy Masking | Supported | Supported |
| Thermal Function | | |
| Temperature Range | -20°C to 150°C (-4°F to 302°F) | |
| Accuracy | ±2°C / ±2% | |
| Temperature Detection | 3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line). | |

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| Temperature Alarm | Supports threshold alarm, temperature difference alarm, range alarm, and temperature rise alarm. |
| Temperature Display | Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature |
| Response Time | ≤ 30ms |
| PTZ | |
| Pan/Tilt Range | Pan: 0° to 360° endless, Tilt: +90° to -90° |
| Pan Speed | Pan: 0.01° to 60°/s, preset speed: 60°/s |
| Tilt Speed | Tilt: 0.01° to 30°/s, preset speed: 30°/s |
| Preset Accuracy | ± 0.1° |
| Preset | 400 |
| Track | 6 tracks |
| Scan | 8 scans |
| Tour | 12 tours, up to 32 presets per tour |
| Power-Off Memory | Supported |
| 3D Positioning | 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, Temperature anomaly, Motion detection, Alarm input, Disk alarm, Network 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, SMTP, 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 |

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| Secure Storage | SDcard partition encrypt(AES-256), Secure element | |
| Supply Chain Security | SBOM | |
| Interface | | |
| Network Interface | 1 × Ethernet (10/100 Base-T), RJ-45 connector | |
| Audio Interface | 2ch input, 2ch output | |
| Alarm Interface | 9ch input, 4ch output | |
| CVBS Output | 1ch BNC (CVBS output for visible) | |
| SD Card Slot | Built-in MicroSD slot, supports up to 512GB * If needed, we recommend purchasing the memory card with the product so it can be pre-installed during production. | |
| Reset Button | Built-in | |
| General | | |
| Language | English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English | |
| Power Supply | 36 VDC | |
| Power Consumption | Max 150 W | |
| Operating Temperature | -40°C to 60°C (-40°F to 140°F) | |
| Operating Humidity | 0 to 90% RH (non-condensing) | |
| Ingress Protection | IP66 | |
| Wiper | Supported | |
| Certifications | CE-EMC - EN 55032, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 FCC 47 CFR Part 15 Subpart B | |
| Material | Metal | |
| Dimensions | 594 × 350 × 337 mm (23.39 × 13.78 × 13.27 inch) | |
| Net Weight | ≤ 26.6Kg (58.6lb) | |
| 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 | 75 mm | 100 mm |
| Detection (Human: 1.8×0.5 m) | 3,125 m (10,252.6 ft) | 4,167 m (13,671.3 ft) |
| Detection (Vehicle: 4×1.5 m) | 9,583 m (31,440.3 ft) | 12,778 m (41,922.6 ft) |
| Recognition (Human: 1.8×0.5 m) | 781 m (2,562.3 ft) | 1,042 m (3,418.6 ft) |

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| Recognition (Vehicle: 4×1.5 m) | 2,396 m (7,860.9 ft) | 3,194 m (10,479.0 ft) |
| Identification (Human: 1.8×0.5 m) | 391 m (1,282.8 ft) | 521 m (1,709.3 ft) |
| Identification (Vehicle: 4×1.5 m) | 1,198 m (3930.5 ft) | 1,597 m (5,539.5 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

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| Lens | 75 mm | 100 mm |
| VCA Detection (Human: 1.8×0.5 m) | 336 m (1,102.4 ft) | 470 m (1,542.0 ft) |
| VCA Detection (Front/Rear of Vehicle: 4×1.5 m) | 630 m (2,066.9 ft) | 800 m (2,624.7 ft) |
| Temperature Measurement (1×1 m) | 1,250 m (4,101.1 ft) | 1,667 m (5,469.2 ft) |
| Temperature Measurement (0.2×0.2 m) | 250 m (820.2 ft) | 333 m (1,092.5 ft) |
| Fire Detection (1×1 m) | 3,125 m (10,252.6 ft) | 4,167 m (13,671.3 ft) |
| Fire Detection (0.2×0.2 m) | 625 m (2,050.5 ft) | 833 m (2,732.9 ft) |

Note:

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

Dimensions (mm)

