# SUNELL

# SN-TPT6436PA-M

## Explosion-proof Bi-spectrum PTZ Camera

## Key Features

- 640 × 512 resolution, 12 µm, VOx UFPA, NETD ≤ 40 mK

- Thermal: 25/50mm motorized lens optional; Visible: 30x optical zoom module

- Detection capabilities: Human/vehicle, smoker, smoke & flame, fire point detection

- Intelligent analytics: Intrusion, single/double line crossing, loitering, wrong-way, enter/leave area detection, smart motion detection, and people counting

- Support temperature monitoring and exception alarm

- Support 3 temperature measurement rule types (spot, line, area)

- Temperature range: -20°C to 150°C (-4°F to 302°F), Accuracy: ±2°C / ±2%

- Material: 316L Stainless steel

- NDAA Compliance, IP68

# Specification

| Camera | Thermal | Visible |
|---|---|---|
| Image Sensor | Vanadium Oxide Uncooled Focal Plane Arrays | 1/2.8" STARVIS CMOS |
| Resolution | Sensor is 640×512. Image can be scaled up to 1280×1024 | 2592 (H)×1944 (V), 5MP |
| Pixel Pitch | 12 μm | |
| Spectral Range | 8 to 14 μm | |
| NETD | ≤ 40mK | |
| Min. Illumination | | Color: 0.07 Lux @(F1.6, AGC ON), B/W: 0.007 Lux (F1.6, AGC ON) |
| Shutter Speed | | 1/5 to 1/100,000s |
| Lens Type | Fixed lens | 30x optical zoom |
| Focal Length | 25 mm, 50 mm | 5.3 to 159 mm |
| Max. Aperture | F1.0 | F1.6 |
| Focus Control | Motorized focus | Auto/Manual/Semi-automatic |
| Field of View (FOV) | 25 mm:<br>- H: 17°, V: 14°<br>50 mm:<br>- H: 8°, V: 7° | H: 56.3° to 2.7°, V: 42.4° to 2.0° |
| **Intelligent Analytics** | | |
| 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<br>Support alarm triggering by specified target types (human and vehicle) | Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Smart Motion Detection<br>Support alarm triggering by specified target types (human and vehicle) |
| Smoke and Flame Detection | | Support |
| Smoker Detection | Support | |
| Fire Spot Detection | Support | |
| People Counting | Support | Support |
| **Video and Audio** | | |
| Stream/Frame Rate | Stream1: 1280×1204, 1280×720, 704×576 @25fps<br>Stream2: D1, CIF @25fps | Stream1: 2592×1944, 2592×1520, 1920×1080, 1280×720 @25/30fps<br>Stream2: D1, VGA, CIF @25/30fps<br>Stream3: VGA, CIF, QVGA @25/30fps |
| Bit Rate Control | CBR/VBR | CBR/VBR |
| Bit Rate | Stream1: 100 Kbps to 8 Mbps,<br>Stream2: 100 Kbps to 6 Mbps | Stream1: 200 kbps to 12 Mbps<br>Stream2: 100 kbps to 6 Mbps<br>Stream3: 100 kbps to 3 Mbps |
| Region of Interest | Off/On (8 Zone, Rectangle) | Support |
| Audio Compression | G.711 A-law, G.711 μ-law, PCM | G.711 A-law, G.711 μ-law, PCM |
| Audio Bit Rate | 64 Kbps (G.711), 128 Kbps (PCM) | 64 Kbps (G.711), 128 Kbps (PCM) |
| **Image** | | |

| | | |
|---|---|---|
| Image Setting | Brightness, Contrast, Sharpness | Brightness, Saturation, Contrast, Sharpness |
| Mirror | Horizontal / Vertical / Horizontal+Vertical | Horizontal / Vertical / Horizontal+Vertical |
| 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) | |
| FFC Control | Auto / Manual | |
| White Balance | | Auto / Tungsten / Fluorescent / Daylight / Shadow / Manual |
| Day/Night | | Auto / Day mode / Night mode / Timer |
| Noise Reduction | 2D/3D DNR | 2D/3D DNR |
| Image Enhancement | | WDR, HLC, BLC, Defog |
| Wide Dynamic Range | | True WDR |
| OSD | Up to 8 OSD | Up to 8 OSD |
| Privacy Masking | Support | Support |
| Illuminator | | IR Range: Up to 100 m (328.08 ft.) |

| 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). | |
| 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 | |
| Response Time | ≤ 30ms | |

| PTZ | | |
|---|---|---|
| Pan/Tilt Range | Pan: 0° to 360° endless, Tilt: +90° to -90° | |
| Pan/Tilt Speed | Pan: 0.1° to 30°/s, Tilt: 0.1° to 20°/s | |
| Wiper | Support | |
| Preset Accuracy | ≤ 0.2° | |
| Presets | 400 | |
| Scan | 8 scans | |
| Patrol | 12 patrols, up to 32 presets per patrol | |
| Track | 6 tracks | |
| 3D Positioning | Support | |
| Speed Setup | Auto/Manual (0-8) | |
| Power Off Memory | Support | |
| 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 |
| Interoperability | ONVIF (Profile S/T/G/M), SDK, CGI |
| Max Concurrent Streams | 10 channels |
| User/Host Level | 32+ users, 3 levels: Administrator, Operator, Media user |
| Security | IP address filter, HTTPS, Illegal login lock, IEEE 802.1x |
| Web Viewer | <IE11, Chrome, Firefox, Microsoft Edge |

## Interface

| | |
|---|---|
| Network Interface | 1 Ethernet (10/100 Base-T) RJ-45 Connector |
| Audio Interface | 1ch input, 1ch output |
| Alarm Interface | 5ch input, 1ch output |
| RS-485 | Support |
| BNC Interface | 1 BNC (CVBS output of Visible) |
| Reset Button | Built-in |
| SD Card Slot | Built-in Micro SD card slot, up to 512 GB |

## General

| | |
|---|---|
| Language | English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English |
| Power Supply | 100 to 240 VAC |
| Power Consumption | Max 75 W |
| Working Temperature/Humidity | -40°C to 60°C (-40°F to 140°F), Humidity: ≤90% RH (non-condensing) |
| Certifications | CE-EMC<br>- EN 55032, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4<br>FCC 47 CFR Part 15 Subpart B |
| Ingress Protection | IP68 |
| Material | SUS316L |
| Dimensions | 567 × 360 × 494mm (22.66 × 14.17 × 19.45 inch) |
| Net Weight | 52 kg (114.64 lb) |

## Ordering Information

| Model | Description |
|---|---|
| SN-TPT6436PA-M25-ZSE30 | Thermal Focal Length: 25mm, Optical Focal Length: 5.3 to 159mm |
| SN-TPT6436PA-M50-ZSE30 | Thermal Focal Length: 50mm, Optical Focal Length: 5.3 to 159mm |

# Thermal DRI Range Table

**Note:** The table is only for reference and the performance may vary according to different environment.

**Note:** The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.

Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.

Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.
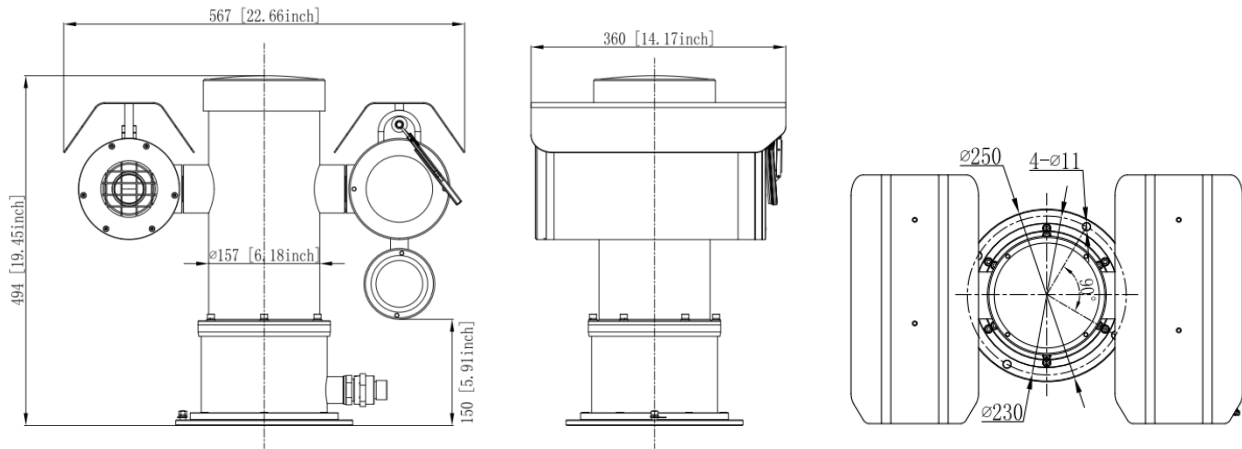
| DRI Distance Table | | |
|---|---|---|
| **Focal Length** | **25 mm** | **50 mm** |
| Detection Distance (Humans: 1.8×0.5m) | 1,042 m (3,418.6 ft) | 2,083 m (9,196.2 ft) |
| Detection Distance (Vehicles: 4×1.5m) | 3,194 m (10,479 ft) | 6,389 m (20,961 ft) |
| Recognition Distance (Humans: 1.8×0.5m) | 260 m (853 ft) | 521 m (1,709.3 ft) |
| Recognition Distance (Vehicles: 4×1.5m) | 799 m (2,621.4 ft) | 1,597 m (5,239.5 ft) |
| Identification Distance (Humans: 1.8×0.5m) | 130 m (426.5 ft) | 260 m (853 ft) |
| Identification Range (Vehicles: 4×1.5m) | 399 m (1,309 ft) | 799 m (2,621.4 ft) |

# Thermal Smart Detection Distance Range Table

**Note**: The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

| Detection Range Table | | |
|---|---|---|
| **Focal Length** | **25 mm** | **50 mm** |
| VCA Detection Distance (Human: 1.8 × 0.5 m) | 101 m (331.4 ft) | 235 m (771 ft) |
| VCA Detection Distance (Front/Rear of Vehicle: 4×1.5 m) | 230 m (754.6 ft) | 400 m (1,312.3 ft) |
| Temperature Measurement (Object: 0.2 × 0.2m) | 83 m (272.3 ft) | 167 m (547.9 ft) |
| Fire Detection (Object: 0.2 × 0.2m) | 208 m (682.4 ft) | 417 m (1,368.1 ft) |

# Dimensions (mm)



# Accessories

**Optional:**



SN-BK402A-SS
Wall Mount

SN-BK404
Pole Mount

SN-BK405-SS
Corner Mount

SN-BK400-SS(P/F/D)
Junction Box

SN-CPL10A-SS
Washing Tank

Flexible Tube

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