

SN-TPC6404VT-Z

Thermal Imaging Box Network Camera



Key Features

- 640 × 512 VOx uncooled thermal sensor, 12 μm pixel pitch, NETD ≤ 20 mK
- Optional motorized lenses: 5× (15–75 mm) / 4× (26–105 mm) / 5× (30–150 mm)
- Supports human, vehicle, and ship detection, as well as smoking detection and fire spot detection
- Intelligent analytics: intrusion, smart motion detection, line crossing, loitering, wrong-way detection, enter area, leave area, and people counting
- Temperature monitoring with exception alarms
- Supports temperature measurement rules: spot, line, and area
- Temperature measurement range: -20 °C to 150 °C, accuracy: ± 2 °C or $\pm 2\%$
- Built-in microSD card slot supporting up to 1 TB
- FIPS 140-3 Level 3 certified secure element
- NDAA compliant

Specifications

Camera	
Image Sensor	VOx uncooled focal plane array
Max Resolution	640 × 512 thermal resolution, upscaled output up to 1280 × 1024
Pixel Pitch	12 μm
Spectral Range	8–14 μm
NETD	≤ 20 mK
Lens	
Lens Type	Motorized Varifocal lens
Focal Length	15–75 mm / 26–105 mm / 30–150 mm (optional)
Max. Aperture	F1.2 / F1.6 / F0.85–F1.2
Field of View (FOV)	15–75 mm: H: 29.9°–5.8°, V: 22.1°–4.4° 26–105 mm: H: 16.8°–4.2°, V: 13.4°–3.4° 30–150 mm: H: 14.5°–2.9°, V: 11.6°–2.3°
Focus Control	Motorized focus
Intelligent Analytics	
AI Multi-Target Detection	Supports human, vehicle, and ship detection
Intelligent Analysis	Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, leave area; supports alarm triggering based on specified target types (human/vehicle)
People Counting	Supported
Smoking Detection	Supported
Fire Spot Detection	Supported
Video & Audio	
Resolution	Stream 1: 1280 × 1024, 1280 × 720, 640 × 512 Stream 2: D1, CIF
Frame Rate	Up to 25 fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream 1: 100 Kbps to 8 Mbps Stream 2: 10 Kbps to 6 Mbps
Smart Encoding	Supported
Image	
Image Adjustment	Brightness, Contrast, Sharpness
Scene Mode	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)
FFC Control	Auto / Manual
Noise Reduction	2D/3D DNR
Privacy Masking	Up to 4 configurable zones
Thermal Function	
Temperature Range	-20 °C to 150 °C (-4 °F to 302 °F)
Accuracy	±2 °C or ±2% (whichever is greater)
Temperature Detection	Supports 3 rule types (spot, line, and area); up to 20 rules, including 1 full-screen rule and 19 spot/line/area rules
Temperature Alarm	Temperature difference alarm, temperature threshold alarm, and temperature rise alarm
Temperature Display	Lower-left corner display; cursor-based display of maximum, minimum, and average temperature values
Response Time	≤ 30 ms
Event	
Alarm Triggers	IVS, temperature anomaly, motion detection, alarm input, network alarm, and disk alarm
Event Actions	Alarm recording, FTP upload, SMTP email notification, and alarm output
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTP/RTCP, 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, and Media user
Web Viewer	Chrome, Firefox, Microsoft Edge, IE11 or earlier
Security	
OS / Firmware Protect	Encrypted firmware, Signed firmware
User Authentication	Digest authentication, Brute-force attack protection
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, and event logs
Supply Chain Security	SBOM
Hardware Security	Built-in FIPS 140-3 Level 3 Certified Secure Element
Interface	
Network Interface	1 × RJ45 10/100 Mbps Ethernet port

Alarm Interface	1 input, 1 output
RS-485	1 × RS-485
CVBS Output	Supported
SD Card Slot	Built-in microSD card slot (up to 1 TB)
Reset Button	Supported

General

Language	English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	12 VDC ±25%
Power Consumption	Max 5 W
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)
Operating Humidity	≤ 90% RH (Non-condensing)
Ingress Protection	N/A
Certifications	CE-EMC: EN 55032, EN IEC 61000-6-4, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 FCC: 47 CFR Part 15, Subpart B
Material	Aluminium alloy
Dimensions	52 × 52 × 70 mm (2.05 × 2.05 × 2.76 in) without lens
Net Weight	Approx. 0.22 kg (0.49 lb) without lens

Thermal DRI Distance

Thermal Lens	15 to 75 mm	26 to 105 mm	30 to 150 mm
Detection (Human: 1.8×0.5 m)	Up to 3,125 m (10,252.6 ft)	Up to 4,375 m (14,353.7 ft)	Up to 6,250 m (20,505.3 ft)
Detection (Vehicle: 4×1.5 m)	Up to 9,583 m (31,440.3 ft)	Up to 13,417 m (44,019 ft)	Up to 19,167 m (62,883.9 ft)
Recognition (Human: 1.8×0.5 m)	Up to 781 m (2,562.3 ft)	Up to 1,094 m (3,589.2 ft)	Up to 1,563 m (5,128.0 ft)
Recognition (Vehicle: 4×1.5 m)	Up to 2,396 m (7,860.9 ft)	Up to 3,354 m (11,003.9 ft)	Up to 4,792 m (15,721.8 ft)
Identification (Human: 1.8×0.5 m)	Up to 391 m (1,282.8 ft)	Up to 547 m (1,794.6 ft)	Up to 781 m (2,562.3 ft)
Identification (Vehicle: 4×1.5 m)	Up to 1,198 m (3,930.5 ft)	Up to 1,677 m (5,502 ft)	Up to 2,396 m (7,860.9 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.

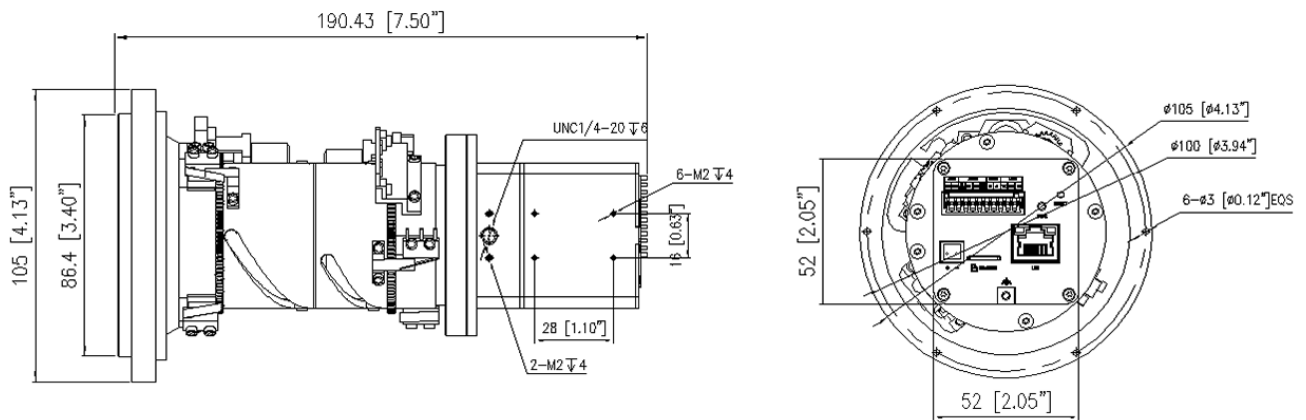
Thermal Smart Detection

Lens	15 to 75 mm	26 to 105 mm	30 to 150 mm
Temperature Measurement (1 × 1 m)	Up to 1,250 m (4,101.1 ft)	Up to 1,750 m (5,741.5 ft)	Up to 2,500 m (8,202.1 ft)

Temperature Measurement (0.2×0.2 m)	Up to 250 m (820.2 ft)	Up to 350 m (1,148.3 ft)	Up to 500 m (1,640.4 ft)
Fire Detection (1×1 m)	Up to 3,125 m (10,252.6 ft)	Up to 4,375 m (14,353.7 ft)	Up to 6,250 m (20,505.3 ft)
Fire Detection (0.2×0.2 m)	Up to 625 m (2,050.5 ft)	Up to 875 m (2,870.7 ft)	Up to 1,250 m (4,101.1 ft)
<i>Note:</i> Values are for reference only. Actual detection range may vary with atmospheric conditions, target size, and installation environment.			

Dimensions (mm)

F25 to 105 mm



F30 to 150 mm

