

# SN-TPC4204VT-M

Thermal Imaging Box Network Camera



## Key Features

- 384 × 288 resolution, 17 μm, VOx uncooled thermal sensor, NETD ≤ 40 mK
- Optional motorized focus lenses: 25 / 50 / 75 / 100 mm
- Supports human, and vehicle detection, as well as smoking 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
- Supports temperature measurement rules: spot, line, and area
- Temperature measurement range: -20 °C to 150 °C, accuracy: ±2 °C / ±2%
- Built-in microSD card slot, supports up to 1TB
- NDAA compliant

## Specifications

Camera	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max Resolution	Sensor is 384×288, Image can be scaled up to 1280×1024
Pixel Pitch	17 μm
Spectral Range	8 to 14 μm
NETD	≤ 40mK
Lens	
Lens Type	Fixed lens
Focal Length	25 mm, 50 mm, 75 mm, 100 mm optional
Max. Aperture	F1.0
Field of View (FOV)	25 mm, H: 14°, V: 11°; 50 mm, H: 7.4°, V: 5.6° 75 mm, H: 5.1°, V: 3.8°; 100 mm, H: 3.8°, V: 2.3°
Focus Control	Motorized focus
Intelligent Analytics	
AI Multi-Target	Supports human / vehicle / ship detection.
Intelligent Analysis	Intrusion, single line crossing, double line crossing, loitering, wrong-way detection, enter area, and leave area. - Supports accurate target classification (human/vehicle)
People Counting	Supported
Smoking Detection	Supported
Fire Spot Detection	Supported
Video & Audio	
Main Stream	1280×1024, 1280×720, 384×288
Sub Stream	D1, CIF
Frame Rate	Up to 25fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream1: 100 Kbps to 8 Mbps, Stream2: 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
OSD	Up to 8 OSD
Privacy Masking	4 areas
<b>Thermal Function</b>	
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	Supports threshold alarm, temperature difference alarm, section 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
<b>Event</b>	
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm input, Disk alarm, Network alarm
Event Actions	Alarm output, Alarm record, SMTP, FTP upload
<b>Network</b>	
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
<b>Security</b>	
OS / Firmware Protect	Encrypted firmware, Secure boot, 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
Secure Storage	SDcard partition encrypt (AES-256), Secure element
Supply Chain Security	SBOM
<b>Interface</b>	

Network Interface	RJ-45 Ethernet (10/100BASE-T)
Alarm Interface	1 input, 1 output
Control Interface	RS-485
CVBS Output	Supported
SD Card Slot	MicroSD card slot (max. 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	Metal
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	25 mm	50 mm	75 mm	100 mm
Detection (Human: 1.8×0.5 m)	735 m (2,411.4 ft)	1,471 m (4,826.1 ft)	2,206 m (7,237.5 ft)	2,941 m (8,172.6 ft)
Detection (Vehicle: 4×1.5 m)	2,255 m (7,398.3 ft)	4,510 m (14,796.6 ft)	6,765 m (22,194.9 ft)	9,020 m (29,593.2 ft)
Recognition (Human: 1.8×0.5 m)	184 m (603.7 ft)	368 m (1,207.4 ft)	551 m (1,807.7 ft)	735 m (2,411.4 ft)
Recognition (Vehicle: 4×1.5 m)	564 m (1,850.4 ft)	1,127 m (3,697.5 ft)	1,691 m (5,547.9 ft)	2,255 m (7,398.3 ft)
Identification (Human: 1.8×0.5 m)	92 m (301.8 ft)	184 m (603.7 ft)	276 m (905.5 ft)	368 m (1,207.4 ft)
Identification (Vehicle: 4×1.5 m)	282 m (925.2 ft)	564 m (1,850.4 ft)	846 m (2,775.6 ft)	1,127 m (3,697.5 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

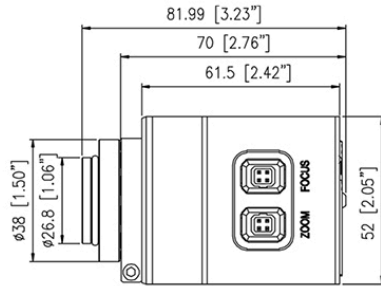
Lens	25 mm	50 mm	75 mm	100 mm
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Temperature Measurement (1 ×1 m)	294 m (964.6 ft)	588 m (1,929.1 ft)	882 m (2,893.7 ft)	1,176 m (3,858.3 ft)
Temperature Measurement (0.2×0.2 m)	59 m (193.6 ft)	118 m (616.8 ft)	176 m (577.4 ft)	235 m (771 ft)
Fire Detection (1×1 m)	735 m (2,411.4 ft)	1,471 m (4,826.1 ft)	2,206 m (7,237.5 ft)	2,941 m (9,649 ft)
Fire Detection (0.2×0.2 m)	147 m (482.3 ft)	294 m (964.6 ft)	441 m (1,446.9 ft)	588 m (1,929.1 ft)

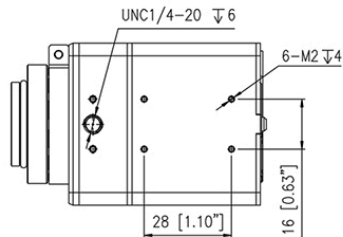
**Note:**

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

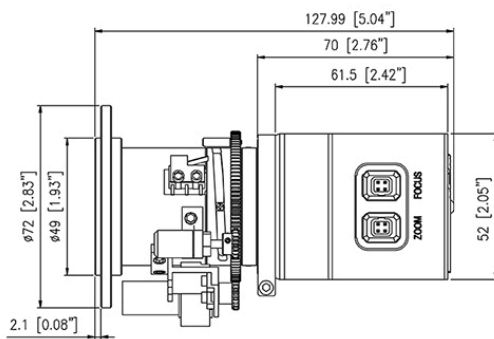
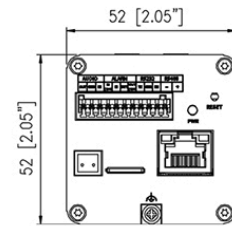
## Dimensions (mm)



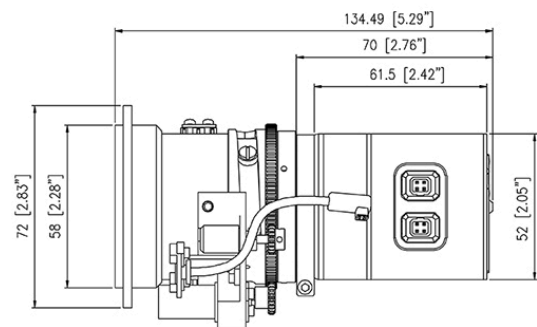
M25 mm Lens



M50 mm Lens



M75 mm Lens



M100 mm Lens

