

SN-TPC4204VT-F

Thermal Imaging Box Network Camera



Key Features

- 384 × 288 resolution, 17 μm, VOx uncooled thermal sensor, NETD ≤ 40 mK
- Optional fixed lenses: 9 / 15 / 25 / 35 / 50 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	9 mm, 15 mm, 25 mm, 35 mm, 50 mm optional
Max. Aperture	F1.0
Field of View (FOV)	9 mm, H: 37°, V: 28°; 15 mm, H: 28°, V: 21°; 25 mm, H: 14°, V: 11°; 35 mm, H: 10°, V: 8°; 50 mm, H: 7.4°, V: 5.6°
Focus Control	Focus-free
Intelligent Analytics	
AI Multi-Target	Supports human / vehicle / ship detection.
Intelligent Analysis	Intrusion, smart motion detection, 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
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	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
Event	
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm input, Disk alarm, Network alarm
Event Actions	Alarm output, Alarm record, SMTP, FTP upload
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTPC/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, 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

Interface	
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 2.5 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	0.29 kg (0.64 lb) with 25 mm lens

Thermal DRI Distance					
Thermal Lens	9 mm	15 mm	25 mm	35 mm	50 mm
Detection (Human: 1.8×0.5 m)	265 m (869.4 ft)	441 m (1,446.9 ft)	735 m (2,411.4 ft)	1,029 m (3,376.0 ft)	1,471 m (4,826.1 ft)
Detection (Vehicle: 4×1.5 m)	812 m (2,664.0 ft)	1,353 m (4,439.0 ft)	2,255 m (7,398.3 ft)	3,157 m (10,357.6 ft)	4,510 m (14,796.6 ft)
Recognition (Human: 1.8×0.5 m)	66 m (216.5 ft)	110 m (360.9 ft)	184 m (603.7 ft)	257 m (843.2 ft)	368 m (1,207.4 ft)
Recognition (Vehicle: 4×1.5 m)	203 m (666.0 ft)	338 m (1,108.9 ft)	564 m (1,850.4 ft)	789 m (2,588.6 ft)	1,127 m (3,697.5 ft)
Identification (Human: 1.8×0.5 m)	33 m (108.3 ft)	55 m (180.5 ft)	92 m (301.8 ft)	129 m (423.2 ft)	184 m (603.7 ft)
Identification (Vehicle: 4×1.5 m)	101 m (331.4 ft)	169 m (554.5 ft)	282 m (925.2 ft)	395 m (1,295.9 ft)	564 m (1,850.4 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.

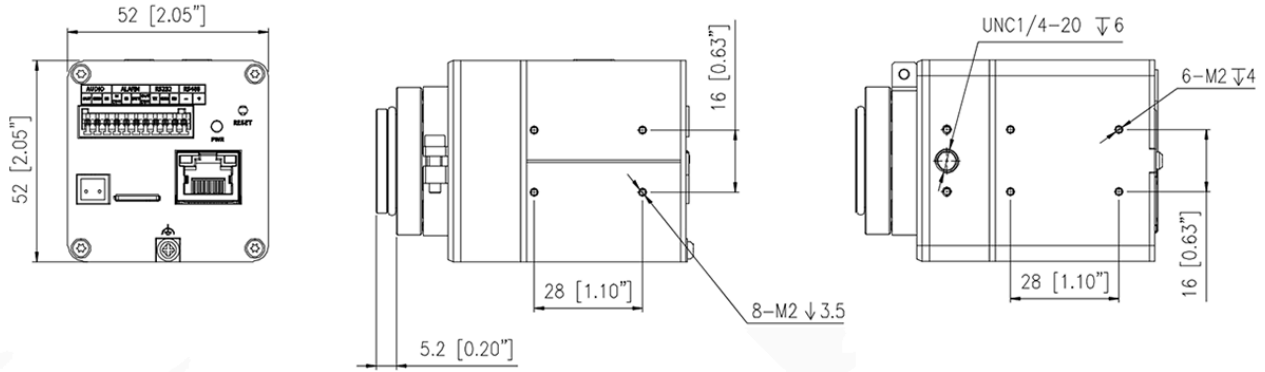
Thermal Smart Detection

Lens	9 mm	15 mm	25 mm	35 mm	50 mm
VCA Detection (Front/Rear of Vehicle: 4×1.5 m)	100 m (328.1 ft)				
Temperature Measurement (1 ×1 m)	106 m (347.8 ft)	176 m (577.4 ft)	294 m (964.6 ft)	412 m (1,351.7 ft)	588 m (1,929.1 ft)
Temperature Measurement (0.2×0.2 m)	21 m (68.9 ft)	35 m (114.8 ft)	59 m (193.6 ft)	82 m (269.0 ft)	118 m (387.1 ft)
Fire Detection (1×1 m)	265 m (869.4 ft)	441 m (1,446.9 ft)	735 m (2,411.2 ft)	1,029 m (3,376.0 ft)	1,471 m (4,826.1 ft)
Fire Detection (0.2×0.2 m)	53 m (173.9 ft)	88 m (288.7 ft)	147 m (482.3 ft)	206 m (675.9 ft)	294 m (964.6 ft)

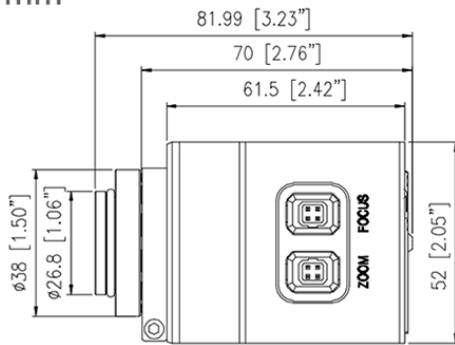
Note:

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

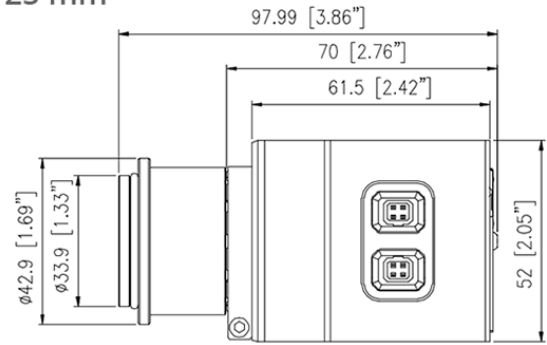
Dimensions (mm)



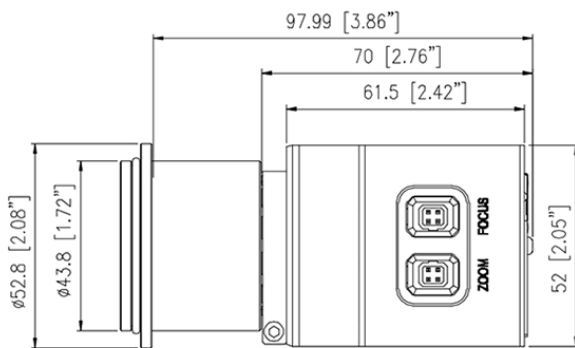
F09/F15 mm



F25 mm



F35 mm



F50 mm

