

SN-TPC6406VT-M

Thermal Imaging Box Network Camera



Key Features

- 640 × 512 resolution, 12 μm, VOx UFPA, NETD ≤40 mK
- 25/50/75/100 mm motorized focus lens optional
- Supports human and vehicle detection, as well as smoking and fire point detection.
- Intelligent Analytics: intrusion, single line crossing, double line crossing, loitering, wrong-way detection, enter area, leave area, and people counting.
- Support 3 temperature measurement rule types (spot, line, area)
- Temperature measurement range: -20°C to 150°C (-4°F to 302°F)
- Accuracy: ±2°C / ±2%
- NDAA Compliance

Specifications

Camera	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max Resolution	Sensor is 640×512. Image can be scaled up to 1280×1024
Pixel Pitch	12 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: 17°, V: 14° 50 mm, H: 8°, V: 7° 75 mm, H: 6°, V: 5° 100 mm, H: 4.3°, V: 3.5°
Focus Control	Motorized focus
Intelligent Analytics	
AI Multi-Target	Supports human/vehicle detection (ship detection optional).
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	
Resolution	Stream1: 1280×1024, 1280×720, 640×512 Stream2: D1, CIF
Frame Rate	Up to 25fps
Bit Rate Control	CBR/VBR
Bit Rate	Main stream: 100 Kbps to 8 Mbps, Sub stream: 100 Kbps to 6 Mbps
Smart Encoding	Supported
Region of Interest (ROI)	Off/On (8 Zone, Rectangle)
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 Kbps (G.711), 128 Kbps (RAW_PCM)

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	Up to 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	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
Event	
Alarm Triggers	IVS, Motion detection, Alarm input, Network alarm, Disk 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

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	1ch input, 1ch output
Alarm Interface	1ch input, 1ch output
Control Interface	1ch RS-485, 1ch RS-232
SD Card Slot	Built-in, up to 512 GB
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 4.5W
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 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 FCC 47 CFR Part 15 Subpart B
Material	Metal
Dimensions	64.8× 52 × 52 mm (2.55× 2.05 × 2.05 inch) without lens
Net Weight	0.2 kg (0.44 lb) without lens

Thermal DRI Distance				
Thermal Lens	25 mm	50 mm	75 mm	100 mm
Detection (Human: 1.8×0.5 m)	1,042 m (3,418.6 ft)	2,083 m (6,834.0 ft)	3,125 m (10,252.6 ft)	4,167 m (13,671.3 ft)
Detection (Vehicle: 4×1.5 m)	3,194 m (10,479 ft)	6,389 m (20,961.3 ft)	9,583 m (31,440.3 ft)	12,778 m (41,922.6 ft)
Recognition (Human: 1.8×0.5 m)	260 m (853 ft)	521 m (1,709.3 ft)	781 m (2,562.3 ft)	1,042 m (3,418.6 ft)
Recognition (Vehicle: 4×1.5 m)	799 m (2,621.4 ft)	1,597 m (5,239.5 ft)	2,396 m (7,860.9 ft)	3,194 m (10,479.0 ft)
Identification (Human: 1.8×0.5 m)	130 m (426.5 ft)	260 m (853 ft)	391 m (1,282.8 ft)	521 m (1,709.3 ft)
Identification (Vehicle: 4×1.5 m)	399 m (1,309.1 ft)	799 m (2,621.4 ft)	1,198 m (3,930.5 ft)	1,597 m (5,539.5 ft)

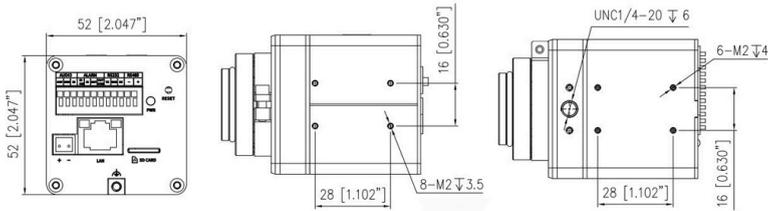
Note:
Distances are calculated based on Johnson's Criteria.
Detection: Object must be covered by ≥ 1.5 pixels.
Recognition: Object must be covered by ≥ 6 pixels.
Identification: Object must be covered by ≥ 12 pixels.

Thermal Smart Detection

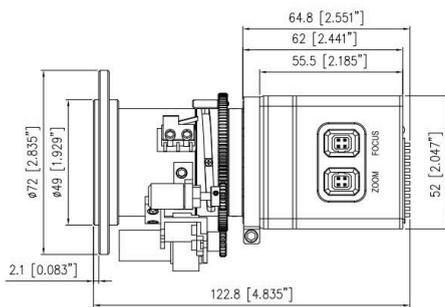
Lens	25 mm	50 mm	75 mm	100 mm
VCA Detection (Human: 1.8×0.5 m)	101 m (331.4 ft)	235 m (771 ft)	336 m (1,102.4 ft)	470 m (1,542.0 ft)
VCA Detection (Front/Rear of Vehicle: 4×1.5 m)	230 m (754.6 ft)	400 m (1,312.3 ft)	630 m (2,066.9 ft)	800 m (2,624.7 ft)
Temperature Measurement (1×1 m)	417 m (1,368.1 ft)	833 m (2,732.9 ft)	1,250 m (4,101.1 ft)	1,667 m (5,469.2 ft)
Temperature Measurement (0.2×0.2 m)	83 m (272.3 ft)	167 m (547.9 ft)	250 m (820.2 ft)	333 m (1,092.5 ft)
Fire Detection (1×1 m)	1,042 m (3,418.6 ft)	2,083 m (6,834.0 ft)	3,125 m (10,252.6 ft)	4,167 m (13,671.3 ft)
Fire Detection (0.2×0.2 m)	208 m (682.4 ft)	417 m (1,368.1 ft)	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.

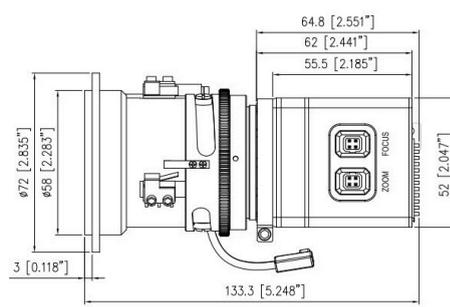
Dimensions (mm)



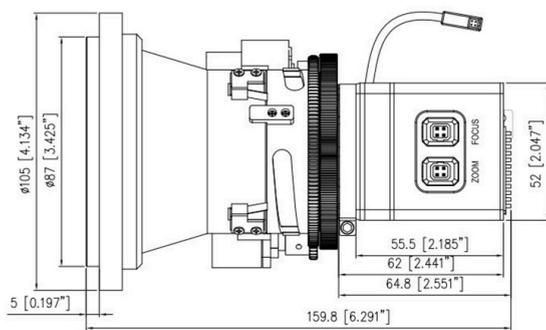
M25 mm Lens



M50 mm Lens



M75 mm Lens



M100 mm Lens

