

SN-TPC6404VT-F

Thermal Imaging Box Network Camera



Key Features

- 640 × 512 resolution, 12 μm, VOx UFPA, NETD ≤20 mK
- 7/9/15/25/35/50mm fixed lens optional
- Detection: Human, vehicle, 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.
- Supports 3 types of temperature measurement rules: spot, line, and area
- Temperature measurement range: -20°C to 150°C (-4°F to 302°F), accuracy: ±2°C / ±2%
- Built-in microSD card slot, supports up to 1TB
- 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	≤ 20mK
Lens	
Lens Type	Fixed lens
Focal Length	7 mm, 9 mm, 15 mm, 25 mm, 35 mm, 50 mm optional
Max. Aperture	F1.0
Field of View (FOV)	7 mm, H: 63°, V: 38° 9 mm, H: 48°, V: 38° 15 mm, H: 29°, V: 23° 25 mm, H: 17°, V: 14° 35 mm, H: 12°, V: 10° 50 mm, H: 8°, V: 7°
Focus Control	Focus-free
Intelligent Analytics	
AI Multi-Target	Supports human / vehicle 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	
Resolution	Stream1: 1280×1024, 1280×720, 640×512 Stream2: D1, CIF
Frame Rate	Up to 25fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream1: 100 Kbps to 8 Mbps, Stream2: 100 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 record, Alarm output, FTP upload, SMTP upload

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, 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	1 × Ethernet (10/100 Base-T), RJ-45 connector					
Alarm Interface	1 × Input, 1 × Output					
Control Interface	1 × RS-485, 1 × RS-232					
CVBS Output	Supported					
SD Card Slot	Built-in microSD slot, supports up to 1TB					
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/FCC					
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	7 mm	9 mm	15 mm	25 mm	35 mm	50 mm
Detection (Human: 1.8×0.5 m)	292 m (958.0 ft)	375 m (1230.3 ft)	625 m (2,050.5 ft)	1,042 m (3,418.6 ft)	1,458 m (4,783.5 ft)	2,083 m (6,834.0 ft)
Detection (Vehicle: 4×1.5 m)	894 m (2,933.1 ft)	1,150 m (3,773 ft)	1,917 m (6,289.3 ft)	3,194 m (10,479 ft)	4,472 m (14,672 ft)	6,389 m (20,961.3 ft)
Recognition (Human: 1.8×0.5 m)	73 m (239.5 ft)	94 m (308.4 ft)	156 m (511.8 ft)	260 m (853 ft)	365 m (1,197.5 ft)	521 m (1,709.3 ft)
Recognition (Vehicle: 4×1.5 m)	224 m (734.9 ft)	288 m (944.9 ft)	479 m (1,571.5 ft)	799 m (2,621.4 ft)	1,118 m (3,668 ft)	1,597 m (5,239.5 ft)
Identification (Human: 1.8×0.5 m)	36 m (118.1 ft)	47 m (154.2 ft)	78 m (255.9 ft)	130 m (426.5 ft)	182 m (597.1 ft)	260 m (853 ft)
Identification (Vehicle: 4×1.5 m)	112 m (367.5 ft)	144 m (472.4 ft)	240 m (787.4 ft)	399 m (1,309.1 ft)	559 m (1,834 ft)	799 m (2,621.4 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	7 mm	9 mm	15 mm	25 mm	35 mm	50 mm
VCA Detection (Human: 1.8×0.5 m)	70 m (229.7 ft)	135 m (442.9 ft)	195 m (639.8 ft)	280 m (918.6 ft)	380 m (1,246.7 ft)	480 m (1,574.8 ft)
Temperature Measurement (1×1 m)	117 m (383.9 ft)	150 m (492.1 ft)	250 m (820.2 ft)	417 m (1,368.1 ft)	583 m (1,912.7 ft)	833 m (2,732.9 ft)
Temperature Measurement (0.2×0.2 m)	23 m (75.5 ft)	30 m (98.4 ft)	50 m (164 ft)	83 m (272.3 ft)	117 m (383.9 ft)	167 m (547.9 ft)
Fire Detection (1×1 m)	292 m (958.0 ft)	375 m (1,230.3 ft)	625 m (2,050.5 ft)	1,042 m (3,418.6 ft)	1,458 m (4,783.5 ft)	2,083 m (6,834.0 ft)
Fire Detection (0.2×0.2 m)	58 m (190.3 ft)	75 m (246.1 ft)	125 m (410.1 ft)	208 m (682.4 ft)	292 m (958 ft)	417 m (1,368.1 ft)

Note:

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

Dimensions (mm)

