



SN-TPC6406VT-F

Thermal Imaging Box Network Camera



Key Features

- VOx uncooled focal plane detector with 640×512 resolution
- NETD $\leq 40\text{mK}$
- 9/15/25/35/50mm fixed 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: $\pm 2^{\circ}\text{C}$ / $\pm 2\%$
- NDAA Compliance



Specification

Thermal Module	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Resolution	Sensor is 640×512. Image can be scaled up to 1280×1024
Pixel Pitch	12 μm
NETD	≤ 40mK
Spectral Range	8 to 14 μm
Focus Control	Fixed lens (Focus-Free)
Focal Length	9 mm, 15 mm, 25 mm, 35 mm, 50 mm
Aperture	F1.0
Field of View (FOV)	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°
Intelligent Analytics	
Smart Detection	Human and Vehicle Detection, Fire Point Detection, and Smoking Detection. (Ship Detection optional)
Intelligent Analysis	Intrusion, Single line crossing, Double line crossing, Loitering, Wrong-way detection, Enter area, and Leave area (these functions support accurate detection of human / vehicles)
People counting	Support
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
Video and Audio	
Main Stream	1280×1024, 1280×720, 640×512 @25fps
Sub Stream	D1, CIF @25fps
Bit Rate Control	CBR/VBR
Bit Rate	Main stream: 100 Kbps to 8 Mbps, Sub stream: 100 Kbps to 6 Mbps
Region of Interest	Off/On (8 Zone, Rectangle)
Audio Compression	G.711 A-law, G.711 μ-law, PCM
Audio Bit Rate	64 Kbps (G.711), 128 Kbps (PCM)
Image	
Image Setting	Brightness, Contrast, Sharpness
Mirror	Horizontal / Vertical / Horizontal + Vertical
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
Event	
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network 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
Interoperability	ONVIF (Profile S/T/G/M), SDK, CGI
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 levels: Administrator, Operator, Media user
Security	IP address filter, HTTPS, Illegal login lock, IEEE 802.1x
Web Viewer	<IE11, Chrome, Firefox, Microsoft Edge
Interface	
Network Interface	1 Ethernet (10/100 Base-T) RJ-45 Connector
Audio Interface	1ch Audio In, 1ch Audio Out
Alarm Interface	1ch Alarm In, 1ch Alarm Out
Control Interface	1ch RS-485, 1ch RS-232
SD Card Slot	Built-in, up to 512GB
Reset Button	Support
General	
Language	English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	12VDC±25%
Power Consumption	Max 3.6W
Working Temperature/Humidity	-40°C to 60°C (-40°F to 140°F), Humidity: ≤90% RH (non-condensing)
Operating Humidity	0 to 90% RH
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
Ingress Protection	N/A
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
Ordering Information	
Model	Description
SN-TPC6406VT-F09	Focal Length: 9mm
SN-TPC6406VT-F15	Focal Length: 15mm
SN-TPC6406VT-F25	Focal Length: 25mm
SN-TPC6406VT-F35	Focal Length: 35mm
SN-TPC6406VT-F50	Focal Length: 50mm

Thermal DRI Range Table

Note: The table is only for reference and the performance may vary according to different environment.

Note: The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.

Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.

Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.

DRI Distance Table					
Focal Length	9 mm	15 mm	25 mm	35 mm	50 mm
Detection Distance (Humans: 1.8×0.5m)	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 (9,196.2 ft)
Detection Distance (Vehicles: 4×1.5m)	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 ft)
Recognition Distance (Humans: 1.8×0.5m)	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 Distance (Vehicles: 4×1.5m)	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 Distance (Humans: 1.8×0.5m)	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 Range (Vehicles: 4×1.5m)	144 m (472.4 ft)	240 m (787.4 ft)	399 m (1,309 ft)	559 m (1,834 ft)	799 m (2,621.4 ft)

Thermal Smart Detection Distance Range Table

Note: The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Detection Range Table					
Focal Length	9 mm	15 mm	25 mm	35 mm	50 mm
VCA Detection Distance (Human: 1.8 × 0.5 m)	40 m (131.2 ft)	65 m (213.3 ft)	101 m (331.4 ft)	160 m (524.9 ft)	235 m (771 ft)
VCA Detection Distance (Front/Rear of Vehicle: 4×1.5 m)	75 m (246.1 ft)	130 m (426.5 ft)	230 m (754.6 ft)	320 m (1,049.9 ft)	400 m (1,312.3 ft)
Temperature Measurement (Object: 1 × 1m)	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 (Object: 0.2 × 0.2m)	30 m (94.4 ft)	50 m (164 ft)	83 m (272.3 ft)	117 m (383.9 ft)	167 m (547.9 ft)
Fire Detection (Object: 1 × 1m)	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 (9,196.2 ft)
Fire Detection (Object: 0.2 × 0.2m)	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)

Dimensions (mm)

