SN-TPC4203AT-F

Thermal Imaging Box Network Camera

Key Features

- 400 × 300 resolution, 17 μm, VOx UFPA, NETD ≤40 mK

- 8/15/25/35/50mm fixed thermal lens optional

- Support human/vehicle detection, 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 temperature monitoring and exception alarm

- 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 400×300. Image can be scaled up to 704×576
Pixel Pitch	17 μm
Spectral Range	8 to 14 μm
NETD	≤ 40mK

Lens	
Lens Type	Fixed lens
Focal Length	8 mm, 15 mm, 25 mm, 35 mm, 50 mm optional
Max. Aperture	F1.0
Field of View (FOV)	8 mm, H: 46°, V: 35.3° 15 mm, H: 25.5°, V: 19.2° 25 mm, H: 15.4°, V: 11.6° 35 mm, H: 11°, V: 9° 50 mm, H: 7.7°, V: 5.8°
Focus Control	Manual focus

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
Fire Spot Detection	Supported

Video & Audio	
Main Stream	704×576 @25/30fps
Sub Stream	CIF @25/30fps
Bit Rate Control	CBR/VBR
Bit Rate	Main stream: 100 Kbps to 6 Mbps, Sub stream: 10 Kbps to 1.5 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℃ to 150℃ (-4°F to 302°F)
Accuracy	±2℃ / ±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

Design and specifications are subject to change without notice. The latest product information/ specification can be found at www.sunellsecurity.com

Interface

Network Interface	1 × Ethernet (10/100 Base-T), RJ-45 connector
Audio Interface	1ch Audio In, 1ch Audio Out
Alarm Interface	2ch Alarm In, 2ch Alarm Out
RS-485	1ch
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 ±10%
Power Consumption	Max 5W
Operating Humidity	0 to 90% RH
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	154.7 × 70 × 70 mm (6.09 × 2.76 × 2.76 inch)
Net Weight	0.7 kg (1.54 lb) with 50 mm lens

Thermal DRI Distance

Thermal Lens	8 mm	15 mm	25 mm	35 mm	50 mm
Detection (Human: 1.8×0.5 m)	235 m (771.0 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)	722 m (2,368.8 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)	59 m (193.6 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)	180 m (590.6 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)	29 m (95.1 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)	90 m (295.3 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.
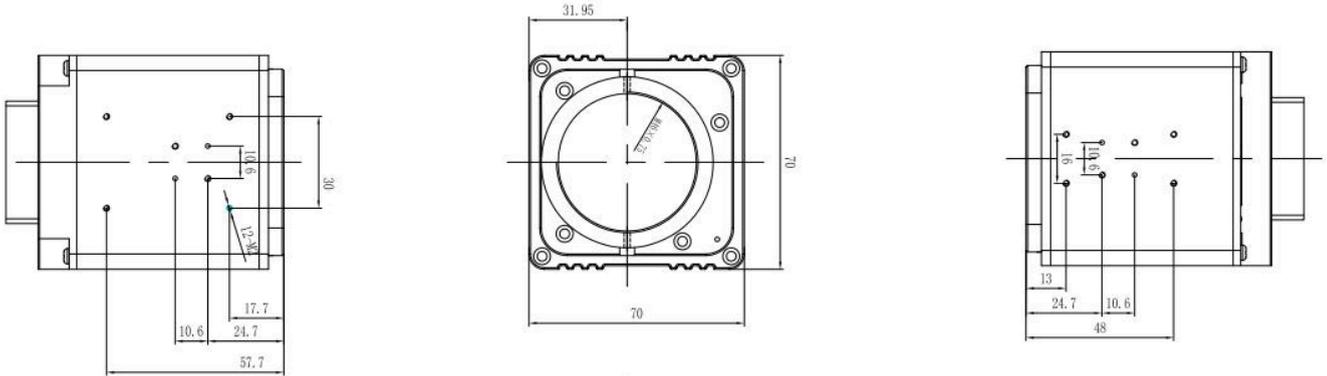*Identification: Object must be covered by ≥12 pixels.*

Thermal Smart Detection

Lens	8 mm	15 mm	25 mm	35 mm	50 mm

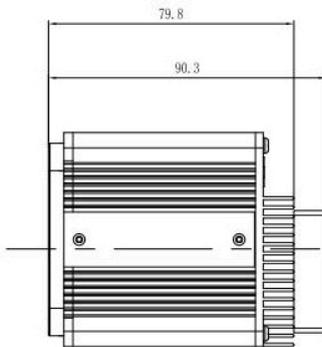|					
VCA Detection (Human: 1.8×0.5 m)	50 m (164.0 ft)	92 m (301.8 ft)	105 m (344.5 ft)	210 m (689.0 ft)	284 m (931.8 ft)
VCA Detection (Front/Rear of Vehicle: 4×1.5 m)	100 m (328.1 ft)	120 m (393.7 ft)	200 m (656.2 ft)	350 m (1,148.3 ft)	450 m (1,476.4 ft)
Temperature Measurement (1×1 m)	94 m (308.4 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)	19 m (62.3 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)	235 m (771.0 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)	47 m (154.2 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.
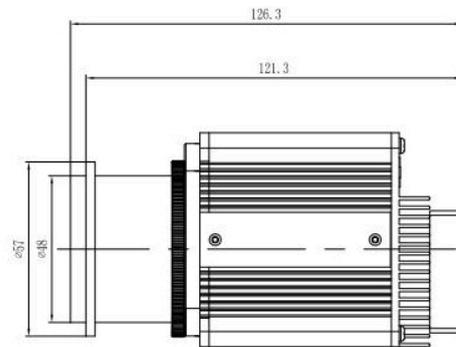
Dimensions (mm)

F8/15/25 mm Lens

35 mm Lens

50 mm Lens