

SN-TPC1604DV-F

Thermal Presence Detector



Key Features

- 160 × 120 resolution, 17 μm, VOx UFPA, NETD ≤ 50 mK
- Supports human and vehicle detection
- Intelligent Analytics: Smart motion detection, intrusion detection, single/double line crossing, loitering, wrong-way detection, entry/exit detection, fall detection, smoking detection, fire spot detection, and people counting.
- Supports audio detection and voice wake-up alarm
- Supports 3 types of temperature measurement rules: spot, line, and area
- Temperature monitoring & alarm: -20°C to 150°C (-4°F to 302°F), with ±8°C accuracy
- Built-in microphone, speaker, and red/blue warning lights; supports sound and light alarm linkage
- Built-in Micro SD card slot, supports up to 1TB
- IP66, IK10-rate housing

Specifications

Camera	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max Resolution	160(H) × 120(V) , Image can be scaled up to 704 × 576
Pixel Pitch	17 μm
Spectral Range	8 to 14 μm
NETD	≤ 50mK
Lens	
Lens Type	Fixed lens
Focal Length	2.1 mm, 3.5 mm, 7 mm optional
Max. Aperture	F1.0
Field of View (FOV)	2.1 mm, H: 90°, V: 64° 3.5 mm, H: 48°, V: 36° 7 mm, H: 24°, V: 18°
Focus Control	Focus-free
Intelligent Analytics	
AI Multi-Target	Supports human/vehicle detection.
Intelligent Analysis	Smart motion detection, intrusion detection, single/double line crossing, loitering, wrong-way detection, entry/exit area detection, and fall detection. - Supports accurate target classification (human/vehicle)
People Counting	Supported
Smoking Detection	Supported
Fire Spot Detection	Supported
Video & Audio	
Main Stream	D1 (704×576)
Sub Stream	CIF, 256×192
Frame Rate	Up to 25fps
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
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	±8°C (depending on emissivity, distance, ambient temperature settings, etc.)
Temperature Detection	Supports 3 rule types (spot, line, area); up to 20 rules in total, including 1 full-screen and 19 spot/line/area rules
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
Event	
Alarm Triggers	IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Abnormal sound detection
Event Actions	Alarm out, Alarm record, SMTP, FTP upload, Red and blue light alarm, 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
Built-in Microphone	Supported
Built-in Speaker	Supported
Alarm Interface	1ch input, 1ch output
Control Interface	1ch RS-485
CVBS Output	Supported
SD Card Slot	Built-in Micro SD 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 / PoE (802.3af)
Power Consumption	Max 4 W
Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Operating Humidity	≤95% RH (non-condensing)
Ingress Protection	IP66, IK10-rate housing
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	Φ73 × 162.3 mm (3.87 × 6.39 inch)
Net Weight	Approx. 590 g (1.3 lb)

Thermal DRI Distance

Thermal Lens	2.1 mm	3.5 mm	7 mm
Detection (Human: 1.8×0.5 m)	61.6 m (202.0 ft)	102.9 m (337.6 ft)	206 m (675.9 ft)
Detection (Vehicle: 4×1.5 m)	189.5 m (621.7 ft)	315.7 m (1035.8 ft)	631 m (2,070.2 ft)
Recognition (Human: 1.8×0.5 m)	15.4 m (50.5 ft)	25.7 m (84.3 ft)	515 m (1,689.6 ft)
Recognition (Vehicle: 4×1.5 m)	47.4 m (155.6 ft)	78.9 m (258.9 ft)	158 m (518.4 ft)
Identification (Human: 1.8×0.5 m)	7.7 m (25.3 ft)	12.9 m (42.3 ft)	26 m (85.3 ft)
Identification (Vehicle: 4×1.5 m)	23.7 m (77.8 ft)	39.5 m (129.6 ft)	79 m (259.2 ft)

Note:

Distances are calculated based on Johnson's Criteria.

Detection: Object must be covered by ≥1.5 pixels.

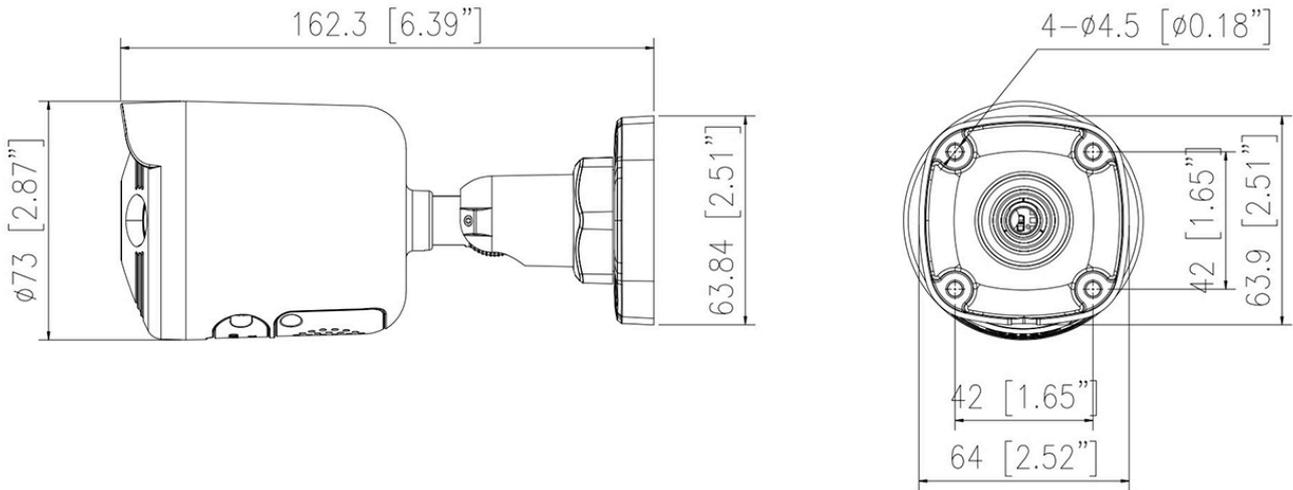
Recognition: Object must be covered by ≥6 pixels.

Identification: Object must be covered by ≥12 pixels.

Thermal Smart Detection			
Temperature Measurement (1×1 m)	24.7 m (81.0 ft)	41.2 m (135.2 ft)	82 m (269.0 ft)
Temperature Measurement (0.2×0.2 m)	4.9 m (16.1 ft)	8.2 m (26.9 ft)	16.5 m (54.1 ft)
Fire Detection (1×1 m)	62 m (203.4 ft)	103 m (337.9 ft)	206 m (675.9 ft)
Fire Detection (0.2×0.2 m)	12.4 m (173.9 ft)	20.6 m (67.6 ft)	41.2 m (135.2 ft)

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

Dimensions (mm)



Accessories

Optional:



SN-CBK656A
Junction Box



SN-CBK627D
Pole Mount