

SN-TPC1604DV-F

Thermal Presence Detector



Key Features

- 160 × 120 VOx uncooled thermal sensor, 17 μm pixel pitch, NETD ≤ 50 mK
- Supports human and vehicle detection, as well as smoking detection and fire spot detection
- Intelligent analytics: intrusion, smart motion detection, line crossing, loitering, wrong-way detection, enter area, leave area, fall detection, and people counting
- Supports audio detection and voice wake-up alarm
- Supports temperature measurement rules: spot, line, and area
- Temperature monitoring and alarms: -20 °C to 150 °C, accuracy: ±8 °C
- Built-in microphone, speaker, and red/blue warning lights with sound and light alarm linkage
- Built-in microSD card slot, supporting up to 1 TB
- IP66, IK10-rated housing

Specifications

Camera	
Image Sensor	VOx uncooled focal plane array
Max Resolution	160 × 120 thermal resolution, upscaled output up to 704 × 576
Pixel Pitch	17 μm
Spectral Range	8–14 μm
NETD	≤ 50 mK
Lens	
Lens Type	Fixed lens
Focal Length	2.1 mm / 3.5 mm (optional)
Max. Aperture	F1.0
Field of View (FOV)	2.1 mm: H: 90°, V: 64° 3.5 mm: H: 48°, V: 36°
Focus Control	Focus-free
Intelligent Analytics	
AI Multi-Target Detection	Supports human and vehicle detection
Intelligent Analysis	Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, leave area, fall detection; supports alarm triggering based on specified target types (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 25/30 fps
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
Privacy Masking	Up to 4 configurable zones
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, and area); up to 20 rules, including 1 full-screen rule and 19 spot/line/area rules
Temperature Alarm	Temperature difference alarm, threshold alarm, section alarm, temperature rise alarm
Temperature Display	Lower-left corner display; cursor-based display of maximum, minimum, and average temperature values
Event	
Alarm Triggers	IVS, temperature anomaly, motion detection, alarm input, network alarm, disk alarm, and abnormal sound detection
Event Actions	Alarm recording, FTP upload, SMTP email notification, alarm output, red and blue light alarm, and audible alarm output
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTP/RTCP, 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, and Media user
Web Viewer	Chrome, Firefox, Microsoft Edge, IE11 or earlier
Security	
OS / Firmware Protect	Encrypted firmware, Signed firmware
User Authentication	Digest authentication, Brute-force attack protection
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, and event logs
Supply Chain Security	SBOM
Interface	
Network Interface	1 × RJ45 10/100 Mbps Ethernet port

Built-in Microphone	Supported
Built-in Speaker	Supported
Alarm Interface	1 input, 1 output
RS-485	1 × RS-485
CVBS Output	Supported
SD Card Slot	Built-in microSD card slot (up to 1 TB)
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	Aluminium alloy
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
Detection (Human: 1.8×0.5 m)	61.6 m (202.0 ft)	102.9 m (337.6 ft)
Detection (Vehicle: 4×1.5 m)	189.5 m (621.7 ft)	315.7 m (1035.8 ft)
Recognition (Human: 1.8×0.5 m)	15.4 m (50.5 ft)	25.7 m (84.3 ft)
Recognition (Vehicle: 4×1.5 m)	47.4 m (155.6 ft)	78.9 m (258.9 ft)
Identification (Human: 1.8×0.5 m)	7.7 m (25.3 ft)	12.9 m (42.3 ft)
Identification (Vehicle: 4×1.5 m)	23.7 m (77.8 ft)	39.5 m (129.6 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.

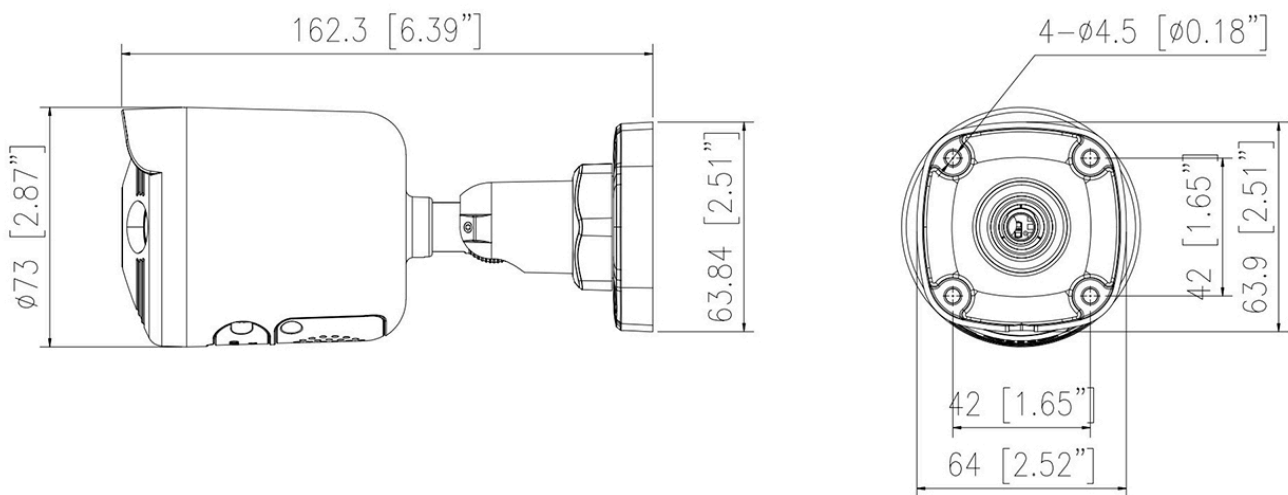
Thermal Smart Detection

Lens	2.1 mm	3.5 mm
VCA Detection (Human: 1.8×0.5 m)	50 m (164.0 ft)	85 m (278.9 ft)
VCA Detection (Front/Rear of Vehicle: 4×1.5 m)	60 m (196.9 ft)	95 m (311.7 ft)
Temperature Measurement (1 ×1 m)	24.7 m (81.0 ft)	41.2 m (135.2 ft)
Temperature Measurement (0.2×0.2 m)	4.9 m (16.1 ft)	8.2 m (26.9 ft)
Fire Detection (1×1 m)	62 m (203.4 ft)	103 m (337.9 ft)
Fire Detection (0.2×0.2 m)	12.4 m (173.9 ft)	20.6 m (67.6 ft)
Smoking Detection	13 m (42.7 ft)	18 m (59.1 ft)

Note:

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

Dimensions (mm)

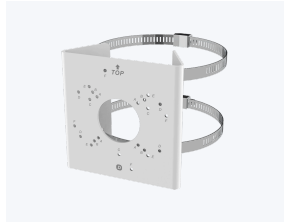


Accessories

Optional:



SN-CBK656A
Junction Box



SN-CBK627D
Pole Mount Bracket