

SN-TPC4157DLT-F (II)

Thermal & Optical Bi-spectrum Bullet Network Camera



Key Features

- Bi-spectrum: 384 × 288 thermal and 4 MP visible sensors
- 12 μm VOx uncooled thermal sensor, NETD ≤ 30 mK
- Multiple optional thermal and visible lens configurations
- Supports human and vehicle detection, smoking detection, smoke and flame detection, and fire spot detection
- Intelligent analytics: intrusion, smart motion detection, line crossing, loitering, wrong-way detection, enter area, leave area, and people counting
- Temperature monitoring and exception alarms
- Temperature measurement range: -20 °C to 150 °C; accuracy: ±2 °C or ±2%
- Supports temperature measurement rules: spot, line, and area
- Smart IR illumination up to 100 m
- Built-in strobe lights and speaker for active deterrence with two-way audio
- NDAA compliant, IP66, optional NEMA 4X rating

Specifications

Camera		
Image Sensor	VOx uncooled focal plane array	1/1.8" CMOS
Max Resolution	384×288 thermal resolution, upscaled output up to 1280 × 720	4MP, 2688(H) × 1520(V)
Pixel Pitch	12 μm	N/A
Spectral Range	8–14 μm	N/A
NETD	≤ 30 mK	N/A
Shutter Speed	N/A	1/5 to 1/20,000s
Min Illumination	N/A	Color: 0.005 Lux @(F1.6, AGC ON), B/W: 0.001 Lux @(F1.6, AGC ON), 0 Lux with IR on
Day & Night	N/A	Auto (ICR)
Lens		
Lens Type	Fixed lens	4 mm / 6 mm: Fixed lens; 10–30 mm: Motorized Varifocal lens
Focal Length	5 mm / 7 mm / 9 mm / 15 mm / 25 mm / 35 mm (optional)	4 mm / 6 mm / 10–30mm (optional)
Max. Aperture	F1.0	F1.6
Field of View (FOV)	5 mm: H: 56°, V: 40° 7 mm: H: 44°, V: 33° 9 mm: H: 28°, V: 21° 15 mm: H: 21°, V: 16° 25 mm: H: 10.5°, V: 7.9° 35 mm: H: 7.5°, V: 5.6°	4 mm: H 87°, V 47° 6 mm: H 55°, V 30° 10–30 mm: H: 43.4°–15.5°, V: 23.8°–8.8°
Focus Control	Focus-free	4 mm / 6 mm: Fixed focus 10–30 mm: Motorized focus
Illuminator		
Type	IR	
IR wavelength	850 nm	
Distance	4 mm: up to 70 m (229.6 ft) 6 mm: up to 80 m (262.5 ft) 10–30 mm: up to 100 m (328.0 ft)	
Control	Auto / Manual	
Intelligent Analytics		
AI Multi-Target Detection	Supports human and vehicle detection	Supports human and vehicle detection
Intelligent Analysis	Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering,	Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering,

	wrong-way detection, enter area, leave area; supports alarm triggering based on specified target types (human/vehicle)	wrong-way detection, enter area, leave area; supports alarm triggering based on specified target types (human/vehicle)
Smoke and Flame Detection	N/A	Supported
People Counting	Supported	Supported
Smoking Detection	Supported	N/A
Fire Spot Detection	Supported	N/A
Video & Audio		
Resolution	Stream 1: 1280 × 720, D1, 384 × 288 Stream 2: D1, 384 × 288, CIF	Stream 1: 2688 × 1520, 2560 × 1440, 2304 × 1296, 1920 × 1080, 1280 × 720 Stream 2: D1, VGA
Frame Rate	Up to 25 fps	Up to 25/30 fps
Bit Rate Control	CBR/VBR	CBR/VBR
Bit Rate	Stream 1: 100 Kbps to 8 Mbps, Stream 2: 100 Kbps to 6 Mbps	Stream 1: 100 Kbps to 16 Mbps, Stream 2: 100 Kbps to 6 Mbps
Smart Encoding	Supported	Supported
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 Kbps (G.711), 128 Kbps (RAW_PCM)	64 Kbps (G.711), 128 Kbps (RAW_PCM)
Image		
Image Adjustment	Brightness, Contrast, Sharpness	Brightness, Saturation, Contrast, Sharpness
Scene Mode	Mirror	Indoor, Outdoor, 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)	N/A
FFC Control	Auto / Manual	N/A
Exposure Mode	N/A	Auto / Manual
White Balance	N/A	Auto / Tungsten / Fluorescent / Daylight / Shadow / Manual
Day/Night Setting	N/A	Auto / Day / Night / Timer
Noise Reduction	2D/3D DNR	2D/3D DNR
Image Enhancement	N/A	HLC, BLC, Defog, WDR
Wide Dynamic Range	N/A	True WDR (120 dB)
Privacy Masking	Up to 4 configurable zones	Up to 4 configurable zones
Thermal Function		
Temperature Range	-20 °C to 150 °C (-4 °F to 302 °F)	
Accuracy	±2 °C or ±2% (whichever is greater)	
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, temperature threshold alarm, and temperature rise alarm
Temperature Display	Lower-left corner display; cursor-based display of maximum, minimum, and average temperature values
Response Time	≤ 30 ms
Image Fusion	Thermal and optical image fusion
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, flashing light alarm, and 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, 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
Audio Interface	1 input (3.5 mm), 1 output (3.5 mm)
Alarm Interface	2 inputs, 2 outputs
RS-485	1 × RS-485
CVBS Output	1 × BNC (Switchable thermal/visible video output)

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 / 24 VAC / PoE+ (802.3at)					
Power Consumption	Max 25 W					
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)					
Operating Humidity	≤ 95% RH (non-condensing)					
Ingress Protection	IP66, NEMA 4X (optional)					
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	(327.4–347.4) × 140.04 × 120.72 mm, (12.89–13.55) × 5.59 × 4.75 inch)					
Net Weight	Approx. 2.58 Kg (5.69 lb) with 9 mm lens					
DORI Distance (EN 62676-4 standard)						
Detect	4 mm: 67.6 m (221.8 ft) / 6 mm: 96.6 m (316.9 ft) / 10–30 mm: 150–400 m (492.1–1,312.3 ft)					
Observe	4 mm: 27 m (88.6 ft) / 6 mm: 38.6 m (126.6 ft) / 10–30 mm: 60–160 m (196.9–524.9 ft)					
Recognize	4 mm: 13.5 m (44.3 ft) / 6 mm: 19.3 m (63.3 ft) / 10–30 mm: 30–80 m (98.4–262.5 ft)					
Identify	4 mm: 6.8 m (22.3 ft) / 6 mm: 9.7 m (31.8 ft) / 10–30 mm: 15–40 m (49.2–131.2 ft)					
Thermal DRI Distance						
Thermal Lens	5 mm	7 mm	9 mm	15 mm	25 mm	35 mm
Detection (Human: 1.8×0.5 m)	208 m (682.4 ft)	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)
Detection (Vehicle: 4×1.5 m)	639 m (2,096.5 ft)	894 m (2,933.1 ft)	1,150 m (3,773 ft)	1,917 m (6,289.4 ft)	3,194 m (10,479 ft)	4,472 m (14,672 ft)
Recognition (Human: 1.8×0.5 m)	52 m (170.6 ft)	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)
Recognition (Vehicle: 4×1.5 m)	160 m (524.9 ft)	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)
Identification (Human: 1.8×0.5 m)	26 m (85.3 ft)	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)
Identification (Vehicle: 4×1.5 m)	80 m (262.5 ft)	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)
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.

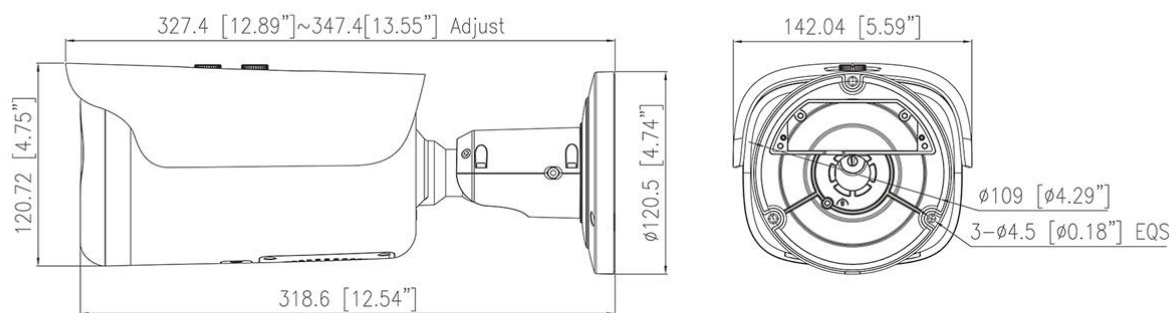
Thermal Smart Detection						
Lens	5 mm	7 mm	9 mm	15 mm	25 mm	35 mm
Temperature Measurement (1 ×1 m)	83 m (272.3 ft)	117 m (383.9 ft)	150 m (492.1 ft)	250 m (820.2 ft)	417 m (1,368.1 ft)	583 m (1,912.7 ft)
Temperature Measurement (0.2×0.2 m)	17 m (55.8 ft)	23 m (75.5 ft)	30 m (98.4 ft)	50 m (164 ft)	83 m (272.3 ft)	117 m (383.9 ft)
Fire Detection (1×1 m)	208 m (682.4 ft)	292 m (958 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)
Fire Detection (0.2×0.2 m)	42 m (137.8 ft)	58 m (190.3 ft)	75 m (246.1 ft)	125 m (410.1 ft)	208 m (682.4 ft)	292 m (958 ft)

Note:

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

Ordering Info	
Model	Description
SN-TPC4157DLT-F09 (II)	Thermal Focal Length: 9mm, Optical Focal Length: 4mm
SN-TPC4157DLT-F15 (II)	Thermal Focal Length: 15mm, Optical Focal Length: 6mm
SN-TPC4157DLT-F25 (II)	Thermal Focal Length: 25mm, Optical Focal Length: 10 to 30mm
SN-TPC4157DLT-F35 (II)	Thermal Focal Length: 35mm, Optical Focal Length: 10 to 30mm
SN-TPC4157DLT-F50 (II)	Thermal Focal Length: 50mm, Optical Focal Length: 10 to 30mm

Dimensions



Accessories

Optional:



SN-CBK645G
Junction Box



SN-CBK101A
Pole Mount



SN-CBK102A
Corner Mount