



# SN-TPC4157DLT-F

Thermal & Optical Bi-spectrum Bullet Network Camera



## Key Features

- 384 × 288 resolution, 12μm, VOx UFPA, NETD ≤ 40mK
- Lens optional: Thermal - 9/15/25/35/50mm fixed; Visible - 4/6/10-30mm lens
- Detection capabilities: Human/vehicle, smoking, smoke & flame, fire point detection
- Intelligent analytics: Intrusion, single/double line crossing, loitering, wrong-way, people counting, enter/leave area detection, smart motion detection
- Support 3 temperature measurement rule types (spot, line, area)
- Temperature monitoring & alarm: -20°C to 150°C (-4°F to 302°F), Accuracy: ±2°C / ±2%
- Built-in speaker and strobe light; supports sound-light alarm
- Smart IR range up to 100m
- Support 12VDC/24VAC/PoE+ power supply
- IP66



# Specification

Camera	Thermal	Visible
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays	1/1.8" CMOS
Resolution	Sensor is 384×288. Image can be scaled up to 1280×720	2688(H) × 1520(V)
Pixel Pitch	12µm	
Spectral Range	8 to 14µm	
NETD	≤ 40mK	
Min. Illumination		Color: 0.005Lux @(F1.6, AGC ON), B/W: 0.001Lux @(F1.6, AGC ON), 0Lux with IR
Shutter Speed		1/5 to 1/20,000s
Lens Type	Fixed	Fixed
Focal Length	9 mm, 15 mm, 25 mm, 35 mm, 50 mm	4mm, 6mm, 10 to 30mm optional
Max. Aperture	F1.0	F1.6
Focus Control	Fixed focal	4 mm / 6mm: Fixed focal 10 to 30 mm: Motorized focal
Field of View (FOV)	9 mm, H: 37°, V: 28° 15 mm, H: 28°, V: 21° 25 mm, H: 14°, V: 11° 35 mm, H: 10°, V: 8° 50 mm, H: 7.4°, V: 5.6°	4 mm, - H: 87°, V: 47° 6 mm, - H: 55°, V: 30° 10 to 30mm, - H: 43.4° to 15.5°, V: 23.8° to 8.8°
IVS		
AI Multi-Target	Human and vehicle detection	Human and vehicle detection
Intelligent Analysis	Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection  Support alarm triggering by specified target types (human and vehicle)	Intrusion, Single Line Crossing, Double Line Crossing, Loitering, Wrong-Way Detection, Enter Area, Leave Area, Smart Motion Detection  Support alarm triggering by specified target types (human and vehicle)
Smoking Detection	Support	
Smoke and Flame Detection		Support
Fire Spot Detection	Support	
People Counting	Support	Support
Video and Audio		
Main Stream	1280×720, 704×576, 384×288 @25fps	2688×1520, 1920×1080, 1280×720 @25/30fps
Sub Stream	D1, 384×288, 352×240 @25fps	D1, 640×360, CIF @25/30fps
Bit Rate Control	CBR/VBR	CBR/VBR
Bit Rate	Main Stream: 100 Kbps to 8 Mbps, Sub Stream: 100 Kbps to 6 Mbps	Main Stream: 200 Kbps to 12 Mbps Sub Stream: 100 Kbps to 6 Mbps
Smart Encode	Support	Support
Audio Compression	G.711 A-law, G.711 µ-law, RAW_PCM	G.711 A-law, G.711 µ-law, RAW_PCM

Image		
Image Setting	Brightness, Contrast, Sharpness	Brightness, Saturation, Contrast, Sharpness
Mirror	Horizontal / Vertical / Horizontal+Vertical	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	
Gain Control		Auto / Manual
White Balance		Auto / Tungsten / Fluorescent / Daylight / Shadow
Day/Night		Day mode / Night mode / Time
Noise Reduction	2D/3D DNR	2D/3D DNR
Image Enhancement		WDR, HLC, BLC
Wide Dynamic Range		True WDR 120dB
OSD	Up to 8 OSD	Up to 8 OSD
Privacy Masking	Up to 4 areas	Up to 4 areas
Illuminator		IR Range: -4 mm: Up to 70 m (229.6 ft) -6 mm: Up to 80 m (262.5 ft) -10 to 30 mm: Up to 100 m (328.0 ft)
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	
Image Fusion	Fusion view of thermal view and overlaid details of the optical channel	
Event		
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm Input, Disk alarm, Network alarm, Abnormal sound detection	
Event Actions	Alarm out, Alarm record, SMTP, FTP upload, Flashing light alarm, Audible alarm output	
Network		
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast	
Compatible Integration	ONVIF (Profile S/T/G/M), CGI, SDK	
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 × RJ45 10/100Base-T Ethernet port, self-adaptive
Audio Interface	1ch input, 1ch output
Built-in MIC	Supported
Built-in Speaker	Supported, Alarm sound transmission distance of 150m (492.13ft) (in a wooded environment)
Alarm Interface	2ch input, 2ch output
Analog Output	Supported (Thermal imaging or Visible switchable)
RS-485	1
SD Card Slot	Built-in MicroSD slot, supports 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
Working Temperature and Humidity	-40°C to 60°C (-40°F to 140°F) Less than 90% RH
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
Ingress Protection	IP66
Material	Metal
Dimensions	(327.4 to 347.4) × 140.04 × 120.72 mm, (12.89 to 13.55) × 5.59 × 4.75 inch)
Net Weight	Approx. 2.0 Kg (4.41 lb) with 50 mm lens
Ordering Information	
Model	Description
SN-TPC4157DLT-F09	Thermal Focal Length: 9mm, Optical Focal Length: 4mm
SN-TPC4157DLT-F15	Thermal Focal Length: 15mm, Optical Focal Length: 6mm
SN-TPC4157DLT-F25	Thermal Focal Length: 25mm, Optical Focal Length: 10 to 30mm
SN-TPC4157DLT-F35	Thermal Focal Length: 35mm, Optical Focal Length: 10 to 30mm
SN-TPC4157DLT-F50	Thermal Focal Length: 50mm, Optical Focal Length: 10 to 30mm

## 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: 1.8x0.5m)	265 m (869.4 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 Distance (Vehicles: 4x1.4m)	812 m (2,664 ft)	1,353 m (4,439 ft)	2,255 m (7,398.3 ft)	3,157 m (10,357.6 ft)	4,510 m (14,796.6 ft)
Recognition Distance (Humans: 1.8x0.5m)	66 m (216.5 ft)	110 m (360.9 ft)	184 m (603.7 ft)	257 m (843.2 ft)	368 m (1,207.4 ft)
Recognition Distance (Vehicles: 4x1.4m)	203 m (666 ft)	338 m (1,109 ft)	564 m (1,850.4 ft)	789 m (2,588.6 ft)	1,127 m (3,697.5 ft)
Identification Distance (Humans: 1.8x0.5m)	33 m (108.3 ft)	55 m (180.4 ft)	92 m (301.8 ft)	129 m (423.2 ft)	184 m (603.7 ft)
Identification Range (Vehicles: 4x1.4m)	101 m (331.4 ft)	169 m (554.5 ft)	282 m (925.2 ft)	395 m (1,296 ft)	564 m (1,850.4 ft)

## Thermal Smart Detection 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 x 0.5 m)	50 m (164.0 ft)	86 m (281.2 ft)	243 m (797.2 ft)	350 m (1,148.3 ft)	500 m (1,640.4 ft)
VCA Detection Distance (Front/Rear of Vehicle: 4x1.5 m)	100 m (328.1 ft)	180 m (590.6 ft)	300 m (984.3 ft)	400 m (1,312.3 ft)	630 m (2,066.9 ft)
Temperature Measurement (Object: 1 x 1m)	106 m (347.8 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 (Object: 0.2 x 0.2m)	21 m (68.9 ft)	35 m (114.8 ft)	59 m (193.6 ft)	82 m (269 ft)	118 m (616.8 ft)
Fire Detection (Object: 1 x 1m)	265 m (869.4 ft)	441 m (1,446.9 ft)	735 m (2,411.4 ft)	1,029 m (3,376 ft)	1,471 m (4,826.1 ft)
Fire Detection (Object: 0.2 x 0.2m)	53 m (173.9 ft)	88 m (288.7 ft)	147 m (482.3 ft)	206 m (675.9 ft)	294 m (964.6 ft)

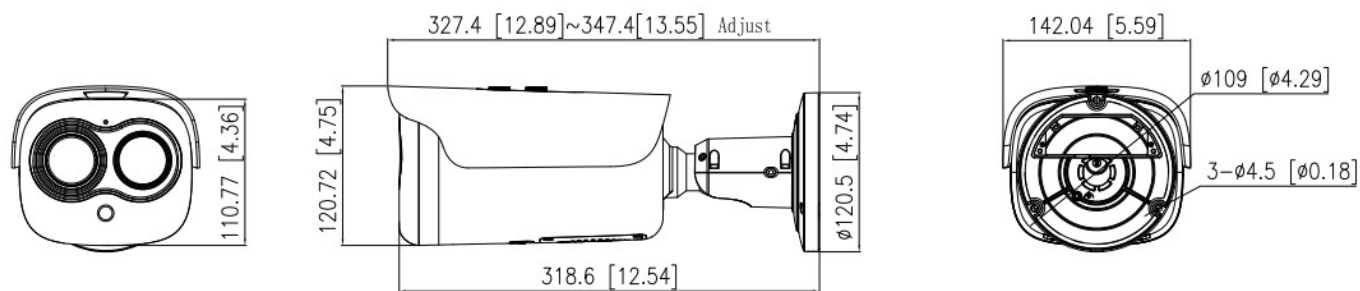
## Visible DORI Range Table

**Note:** DORI (Detect, Observe, Recognize, and Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.

DORI Distance			
Lens	4 mm	6 mm	10 to 30 mm
<b>Detect</b>	67.6 m (221.8 ft)	96.6 m (316.9 ft)	150 to 400 m (492.1 to 1,312.3 ft)
<b>Observe</b>	27 m (88.6 ft)	38.6 m (126.6 ft)	60 to 160 m (196.9 ft to 524.9 ft)
<b>Recognize</b>	13.5 m (44.3 ft)	19.3 m (63.3 ft)	30 to 80 m (98.4 to 262.5 ft)

<b>Identify</b>	6.8 m (22.3 ft)	9.7 m (118.4 ft)	15 to 40 m (49.2 to 131.2 ft)
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## Dimensions (mm)



## Accessories

### Optional:



SN-CBK645G  
Junction Box



SN-CBK101A  
Pole Mount



SN-CBK102A  
Corner Mount