

DHI-TPC-BF1241-T

Thermal Network Mini Hybrid Bullet Camera



- Vanadium oxide uncooled focal plane detector.
- 4Megapixel progressive scan CMOS.
- AI functions: heat detection, tripwire, human/vehicle classification, smoking detection, and call detection.
- Temperature measurement range of -20°C to $+550^{\circ}\text{C}$.
- Flexible rules and alarms.
- Built-in white light and audio alarm.
- Remote auxiliary management.
- Dual image fusion (visible and thermal channels).
- Wide input voltage $12\text{ VDC} \pm 20\%$, and PoE.
- IP67 rated.

Featuring thermal and visible channels, Eureka series thermal network camera offers various AI functions such as tripwire, intrusion, call detection, smoking detection, and temperature measurement. It can be used in short-distance monitoring scenes such as perimeter protection and heat monitoring, which provides an all-in-one video surveillance solution for small and medium scenes. The camera is widely applied in waste, laundry, warehouse, and more.

Technical Specification

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Max. Resolution	$256 (\text{H}) \times 192 (\text{V})$
Pixel Pitch	$12\text{ }\mu\text{m}$
Spectral Range	$8\text{ }\mu\text{m}-14\text{ }\mu\text{m}$
Thermal Sensitivity (NETD)	$< 40\text{ mK (@f/1.0, 25 Hz, 300 K)}$
Field of View	3.5 mm: H: 50.6° ; V: 37.8° 7 mm: H: 24° ; V: 18° 10 mm: H: 17.3° ; V: 13.1°
Close Focus Distance	3.5 mm: 0.5 m (1.64 ft) 7 mm: 1 m (3.28 ft) 10 mm: 2 m (6.56 ft)
Detection Distance ^①	3.5 mm: Vehicle: 449 m (1,473.10 ft); Human: 146 m (479.00 ft) 7 mm: Vehicle: 897 m (2,942.91 ft); Human: 292 m (958.01 ft) 10 mm: Vehicle: 1,282 m (4,206.04 ft); Human: 417 m (1,368.11 ft)
Recognition Distance ^②	3.5 mm: Vehicle: 110 m (360.89 ft); Human: 38 m (124.67 ft) 7 mm: Vehicle: 220 m (721.78 ft); Human: 75 m (246.06 ft) 10 mm: Vehicle: 314 m (1,030.18 ft); Human: 107 m (351.05 ft)

Identification Distance ^③	3.5 mm: Vehicle: 56 m (183.73 ft); Human: 19 m (62.34 ft) 7 mm: Vehicle: 111 m (364.17 ft); Human: 38 m (124.67 ft) 10 mm: Vehicle: 159 m (521.65 ft); Human: 54 m (177.17 ft)
Note:	
	①Detection Distance: Detects objects, but cannot recognize their characteristics (objects must cover more than 3.6 pixels of the image).
	②Recognition Distance: Classifies objects into general categories, such as human, vehicle (the object must cover more than 14 pixels of the image).
	③Identification Distance: Classifies objects into specific categories based on their characteristics, such as engineering truck, car (the object must cover more than 28 pixels of the image).
Aperture	F1.0
Digital Detail Enhancement (DDE)	Yes
Digital Zoom	16 levels
AGC	Auto; Manual
Noise Reduction	2D NR; 3D NR
Image Flip	180°
Color Palettes	18 (white hot/black hot/fusion/rainbow/golden autumn/midday/iron red/amber/jade/sunset/icefire/painting/pomegranate/emerald/spring/summer/autumn/winter)
Fusion Mode	3 (Warm color; Cool color; Ironred)
Visible	
Image Sensor	1/2.7" CMOS

Max. Resolution	2336 (H) × 1752 (V)	Resolution Thermal: Main Stream: 1280 × 960 (1.3M); XGA (1024 × 768); VGA (640 × 480); 256 × 192; 1280 × 960 (by default) Sub Stream: VGA (640 × 480); 256 × 192; 256 × 192 (by default) Visual: Main Stream: 2336 × 1752; 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576); 2336 × 1752 (by default) Sub Stream: 720p (1280 × 720); D1 (704 × 576); CIF (352 × 288); 352 × 288 (by default)	
Pixel	4 MP		
Electronic Shutter Speed	1/30,000 s–1 s		
Min. Illumination	Color: 0.05 lux Black & white: 0.005 lux 0 lux (IR on)		
IR Illumination Distance	30 m (98.43 ft)		
IR Illuminator On/Off Control	Auto; Manual		
Aperture	4 mm: F1.6 8 mm: F2.0 12 mm: F2.0		
Field of View	4 mm: H: 71.2°; V: 52° 8 mm: H: 33.4°; V: 25° 12 mm: H: 22°; V: 16.6°		
Focus Control	Fixed	Frame Rate Thermal 50 Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60 Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default Visual 50 Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60 Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default	
Close Focus Distance	4 mm: 1 m (3.28 ft) 8 mm: 2.5 m (8.2 ft) 12 mm: 2.5 m (8.2 ft)		
Day/Night	Auto (ICR); Color; B/W		
BLC	Yes	Audio Compression G.711a; G.711mu; PCM	
WDR	DWDR		
HLC	Yes		
White Balance	Auto; Manual; Indoor; Outdoor; Tracking; Street lamp; Natural	Network Protocol HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP	
AGC	Auto; Manual		
Noise Reduction	2D NR; 3D NR		
S/N Ratio	≥55 dB		
Region of Interest (RoI)	Yes		
Image Flip	180°		
Exposure Compensation	Yes		
Intelligence			
General Intelligence	Tripwire; Intrusion	Port Network 1 × RJ-45 (10/100 Base-T)	
Advanced Intelligence	Heat Detection & Alarm Cold & Hot Spot Trace Human & Vehicle Classification Smoking Detection Call Detection		
Intelligence			
Temperature Range	Low Temperature Mode: –20 °C to +150 °C (–4 °F to +302 °F) High Temperature Mode: 0 °C to +550 °C (+32 °F to +1022 °F)		
Temperature Accuracy	Max (± 2 °C, ± 2%) Operating Temperature: –20 °C to +50 °C (–4 °F to +122 °F)		
Temperature Mode	Spot: 12 Line: 12 Area: 12 Support 12 rules simultaneously		
Video and Audio			
Video Compression	H.265; H.264; H.264H; MJPEG		
Power			
Power Supply	12 VDC ± 20%; PoE	Power Consumption Basic: <3 W (12 VDC, LED off); 4 W (PoE) Max: <8.5 W (12 VDC, LED on, heater on); 10 W (PoE)	
Power Consumption			
Environment			
Operating Temperature	–30 °C to +60 °C (–22 °F to +140 °F)	Environment Operating Temperature –30 °C to +60 °C (–22 °F to +140 °F)	
Storage Temperature	–30 °C to +70 °C (–22 °F to +158 °F)		
Operating Humidity	≤95%		
Protection	IP67		

Structure

Product Dimensions	205.5 mm × 90.4 mm × 90.1 mm (8.09" × 3.56" × 3.55") (L × W × H)
Packaging Dimensions	279 mm × 187 mm × 138 mm (10.98" × 7.36" × 5.43") (L × W × H)
Net Weight	≤0.9 kg (1.98 lb)
Gross Weight	≤1.3 kg (2.87 lb)

Heat Detection Distance

Focal Length	Max. Distance
3.5 mm	45 m (147.64 ft)
7 mm	86 m (282.15 ft)
10 mm	123 m (403.54 ft)

Note:

The table displays the measured distances obtained from using the target size 0.2 m × 0.2 m for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.

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.

Temperature Measurement Range

Focal Length	Min. Distance	Max. Distance
3.5 mm	1 m (3.28 ft)	5 m (16.40 ft)
7 mm	2 m (6.56 ft)	8 m (16.25 ft)
10 mm	3 m (9.84 ft)	12 m (39.37 ft)

Note:

The table displays the measured distances obtained from using the target size 0.1 m × 0.1 m for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.

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.

Accessories

Optional:



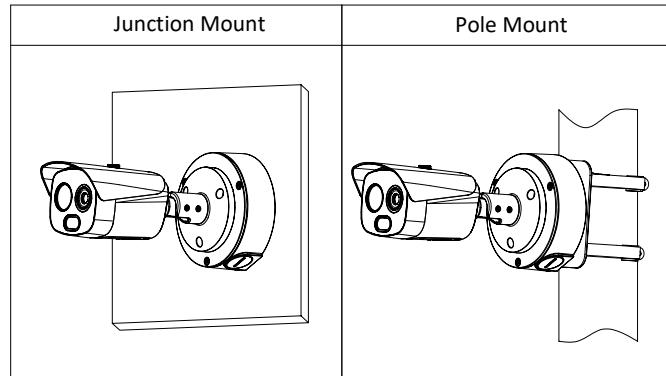
PFA152-E
Pole-mount bracket



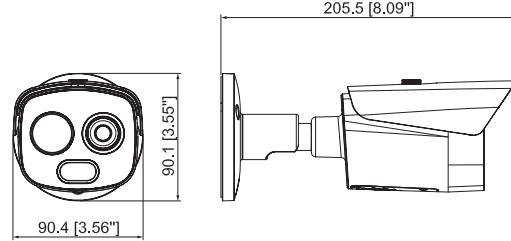
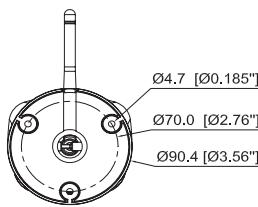
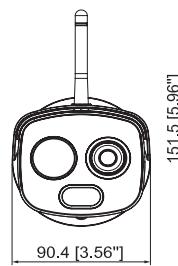
PFA130-E
Junction box



PFM320D
Power adapter



Dimensions (mm [inch])



Ordering Information

Type	Model	Description
Thermal Camera	DHI-TPC-BF1241-TB3F4-DW-S8	Thermal: 256 × 192 3.5 mm lens Visible: 4 MP 4 mm lens
	DHI-TPC-BF1241-TB7F8-DW-S8	Thermal: 256 × 192 7 mm lens Visible: 4 MP 8 mm lens
	DHI-TPC-BF1241-TB10F12-DW-S8	Thermal: 256 × 192 10 mm lens Visible: 4 MP 12 mm lens
Accessories (Optional)	PFA152-E	Pole-mount Bracket
	PFA130-E	Junction Box
	PFM320D	Power Adapter