

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 $+400^{\circ}\text{C}$.
- Flexible rules and alarms.
- 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

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| Detector Type | Vanadium oxide uncooled focal plane detector |
| Max. Resolution | 256 (H) × 192 (V) |
| Pixel Pitch | 12 μm |
| Spectral Range | 8 μm –14 μm |
| Thermal Sensitivity (NETD) | < 40 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: 389 m (1,276 ft); Human: 146 m (479 ft) 7 mm: Vehicle: 778 m (2,552 ft); Human: 292 m (958 ft) 10 mm: Vehicle: 1,111 m (3,645 ft); Human: 417 m (1,368 ft) |
| Recognition Distance ^② | 3.5 mm: Vehicle: 97 m (318 ft); Human: 38 m (125 ft) 7 mm: Vehicle: 194 m (636 ft); Human: 75 m (246 ft) 10 mm: Vehicle: 278 m (912 ft); Human: 107 m (351 ft) |

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|---|---|
| Identification Distance ^③ | 3.5 mm: Vehicle: 49 m (161 ft); Human: 19 m (622 ft) 7 mm: Vehicle: 97 m (318 ft); Human: 38 m (125 ft) 10 mm: Vehicle: 139 m (456 ft); Human: 54 m (177 ft) |
| Note: ① Detection Distance: Detects objects, but cannot recognize their characteristics (objects must cover more than 3.6 pixels of the image). ② Recognition Distance: Classifies objects into general categories, such as human, vehicle (the object must cover more than 14 pixels of the image). ③ Identification 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 | 90°; 180°; 270° |
| 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 |

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| Max. Resolution | 2336 (H) × 1752 (V) |
| 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 |
| 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 |
| WDR | DWDR |
| HLC | Yes |
| White Balance | Auto; Manual; Indoor; Outdoor; Tracking; Street lamp; Natural |
| AGC | Auto; Manual |
| Noise Reduction | 2D NR; 3D NR |
| S/N Ratio | ≥55 dB |
| Region of Interest (RoI) | Yes |
| Image Flip | 90°; 180°; 270° |
| Exposure Compensation | Yes |

Intelligence

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| General Intelligence | Tripwire; Intrusion |
| Advanced Intelligence | Heat Detection & Alarm Cold & Hot Spot Trace Human & Vehicle Classification Smoking Detection Call Detection |

Intelligence

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|----------------------|---|
| 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

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| Video Compression | H.265; H.264M; H.264H; H.264B; MJPEG |
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| 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) |
| 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 |
| Audio Compression | G.711a; G.711mu; PCM |

Network

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| Protocol | HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP |
| Edge Storage | Micro SD card (256 G) |
| Interoperability | ONVIF; CGI |
| Browser | IE: IE 8 and later Google: 42 and earlier Firefox: 42 and earlier |
| User/Host | 10 |
| Security | Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access |

Port

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|--------------|---------------------------|
| Network | 1 × RJ-45 (10/100 Base-T) |
| Audio Input | 1 |
| Audio Output | 1 |
| Alarm Input | 1 |
| Alarm Output | 1 |
| RS-485 | 1 pair |

Power

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| Power Supply | 12 VDC (± 20%); PoE |
| Power Consumption | Basic: < 8 W (LED off, 12 VDC); 12 W (LED off, PoE) Max: < 14 W (LED on, 12 VDC); 20 W (LED on, PoE) |

Environment

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|-----------------------|--------------------------------------|
| Operating Temperature | –30 °C to +50 °C (–22 °F to +122 °F) |
| Storage Temperature | –30 °C to +70 °C (–22 °F to +158 °F) |
| Operating Humidity | ≤95% |

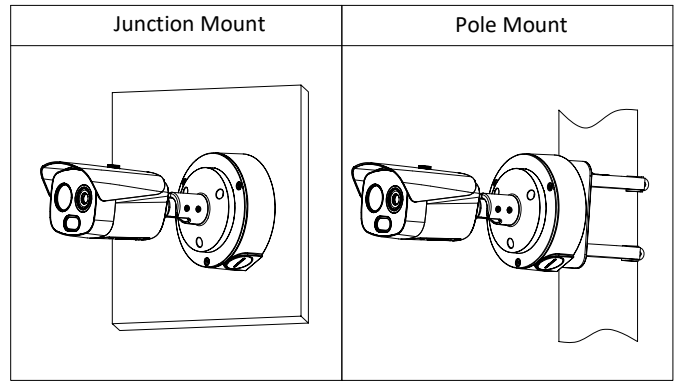
Eureka Series | DHI-TPC-BF1241-T

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|----------------------|---|
| 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) |

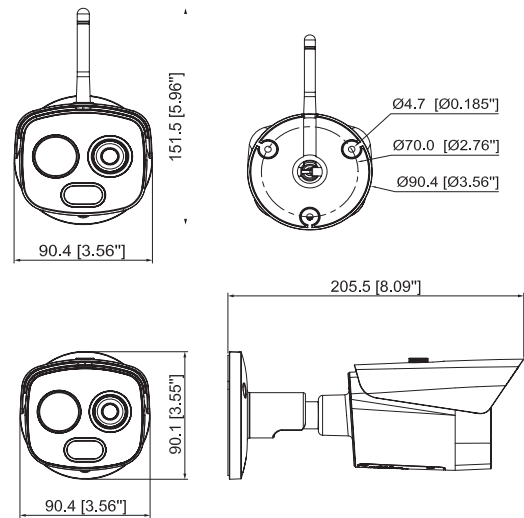
Temperature Measurement Range

| Focal Length | Min. Distance | Max. Distance |
|--------------|----------------|-----------------|
| 3.5 mm | 1 m (3.28 ft) | 5 m (16.40 ft) |
| 7 mm | 3 m (9.84 ft) | 8 m (16.25 ft) |
| 10 mm | 4 m (13.12 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.



Dimensions (mm [inch])



Ordering Information

| Type | Part Number | Description |
|------------------------|------------------------------|---|
| Thermal Camera | DHI-TPC-BF1241-TB3F4-DW-S2 | Thermal: 256 × 192 3.5 mm lens Visible: 4 MP 4 mm lens |
| | DHI-TPC-BF1241-TB7F8-DW-S2 | Thermal: 256 × 192 7 mm lens Visible: 4 MP 8 mm lens |
| | DHI-TPC-BF1241-TB10F12-DW-S2 | 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 |

Accessories

Optional:



PFA152-E
Pole-mount bracket



PFA130-E
Junction box



PFM320D
Power adapter