

# DHI-TPC-BF5401-T

## Thermal Network Bullet Camera



- Vanadium oxide uncooled focal plane detector.
- AI functions: heat detection, tripwire, intrusion, and human/vehicle classification.
- Temperature measurement range of  $-20^{\circ}\text{C}$  to  $+550^{\circ}\text{C}$ .
- Wide input voltage  $12\text{ VDC} \pm 20\%$ , and PoE.
- IP67 rated.

Featuring the thermal channel, Thermal Network Bullet Camera measures temperature through the thermal channel, with high accuracy Max ( $\pm 2^{\circ}\text{C}$ ,  $\pm 2\%$ ). the camera supports multiple temperature measurement rules of spot, line and region at the same time, and generates alarm when the temperature is abnormal, which can help user find potential hazard.

### Technical Specification

#### Thermal Camera

Image Sensor	Vanadium Oxide Uncooled Focal Plane Detector
Effective Pixels	400 (H) × 300 (V)
Pixel Size	17 $\mu\text{m}$
Thermal Sensitivity (NETD)	$\leq 40\text{ mK}@f/1.0$
Spectral Range	8 $\mu\text{m}$ –14 $\mu\text{m}$
Image Setting	Brightness/Sharpness/ROI/AGC/FFC/3D DNR
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)

#### Thermal Lens

Lens Type	Fixed/F1.0
Focus Control	Athermalized, Focus-free
Focal Length	7.5 mm; 13 mm; 25 mm; 35 mm
Angle of View	7.5 mm: H: $53.7^{\circ}$ ; V: $39.7^{\circ}$ 13 mm: H: $30.2^{\circ}$ ; V: $22.6^{\circ}$ 25 mm: H: $15.5^{\circ}$ ; V: $11.6^{\circ}$ 35 mm: H: $11.1^{\circ}$ ; V: $8.3^{\circ}$
Detection Distance <sup>①</sup>	7.5 mm: Vehicle: 490 m (1,607.61 ft); Human: 221 m (725.07 ft) 13 mm: Vehicle: 850 m (2,788.71 ft); Human: 382 m (1,253.28 ft) 25 mm: Vehicle: 1,634 m (5,360.89 ft); Human: 735 m (2,411.42 ft) 35 mm: Vehicle: 2,288 m (7,506.56 ft); Human: 1,030 m (3,379.27 ft)
Recognition Distance <sup>②</sup>	7.5 mm: Vehicle: 126 m (413.39 ft); Human: 57 m (187.01 ft) 13 mm: Vehicle: 219 m (718.50 ft); Human: 98 m (321.52 ft) 25 mm: Vehicle: 420 m (1,377.95 ft); Human: 189 m (620.08 ft) 35 mm: Vehicle: 588 m (1,929.13 ft); Human: 265 m (869.42 ft)

#### Identification Distance<sup>③</sup>

7.5 mm: Vehicle: 63 m (206.69 ft); Human: 28 m (91.86 ft)
13 mm: Vehicle: 109 m (357.61 ft); Human: 49 m (160.76 ft)
25 mm: Vehicle: 210 m (688.98 ft); Human: 95 m (311.68 ft)
35 mm: Vehicle: 294 m (964.57 ft); Human: 132 m (433.07 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).

#### Temperature Measurement

Temperature Range	Low Temperature Mode: $-20^{\circ}\text{C}$ to $+150^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ to $+302^{\circ}\text{F}$ ) High Temperature Mode: $0^{\circ}\text{C}$ to $+550^{\circ}\text{C}$ ( $+34^{\circ}\text{F}$ to $+1022^{\circ}\text{F}$ )
Focus Control	Max ( $\pm 2^{\circ}\text{C}$ , $\pm 2\%$ ) Operating Temperature: $-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ to $+140^{\circ}\text{F}$ )
Focus Control	Spot: 12 Line: 12 Area: 12 Support 12 rules simultaneously

#### Video

Compression	H.265; H.264; MJPEG
Frame Rate	Main Stream: Thermal: $1280 \times 1024$ ; 720p; $400 \times 300@25/30$ fps Sub Stream: Thermal: $640 \times 512$ ; $400 \times 300@25/30$ fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 640–8192 Kbps
Motion Detection	Off/On (4 zone, Rectangle)
Region of Interest	Off/On (4 zone)

Digital Zoom	4 × (19 levels)
Flip	180°
Mirror	Off/On
Privacy Masking	Off/On (4 area, Rectangle)
<b>Audio</b>	
Compression	G.711A; G.711Mu; AAC; PCM
<b>Intelligence</b>	
IVS	Tripwire, Intrusion
Advanced Intelligent Functions	Heat detection & alarm, Cold/Hot spot trace, Human/Vehicle classification
<b>Network</b>	
Ethernet	RJ-45
Protocol	IPv4/IPv6; HTTP; HTTPS; SSL; TCP/IP; UDP; UPnP; ICMP; IGMP; SNMP; RTSP; RTP; SMTP; NTP; DHCP; DNS; PPPOE; DDNS; FTP; IP Filter; QoS; Bonjour; 802.1x
Interoperability	ONVIF Profile S & G, API
Streaming Method	Unicast/Multicast
Max. User Access	10 Users/20 Users
Edge Storage	Micro SD (256GB) Memory status display (Normal / Error / Active / Formatting / Lock), NAS (Network Attached Storage), Local PC for instant recording
Web Viewer	>IE8; <Chrome42; <Firefox42
Management Software	SmartPSS; DSS
Smart Phone	Android; iOS
<b>Certifications</b>	
Certification	CE (EN 60950: 2000) FCC (FCC Part 15 SubpartB )
<b>Interface</b>	
Video Interface	1 Port (CVBS/BNC)
Audio Interface	1/1 In/Out
RS485	Yes
Alarm	2/2 In/Out
<b>Electrical</b>	
Power Supply	12 VDC /PoE/ePoE
Power Consumption	Max. 13 W
<b>Environmental</b>	
Operating Condition	-40°C to +70°C (-40°F to +158°F)/Less than 95% RH * Start up should be done at above -40°C (-40°F)
Storage Conditions	-40°C to +70°C (-40°F to +158°F)/Less than 95% RH
Ingress Protection	IP67
<b>Construction</b>	
Casing	Metal
Dimensions	291 mm × 103 mm × 97 mm (11.46" × 4.06" × 3.82")
Net Weight	1.5 Kg (3.31 lb)
Gross Weight	1.9 Kg (4.19 lb)

**Ordering Information**

Type	Part Number	Description
DHI-TPC-BF5401-T	DHI-TPC-BF5401-TB7	Thermal: 400 × 300; 7.5 mm lens
	DHI-TPC-BF5401-TB13	Thermal: 400 × 300; 13 mm lens
	DHI-TPC-BF5401-TB25	Thermal: 400 × 300; 25 mm lens
	DHI-TPC-BF5401-TB35	Thermal: 400 × 300; 35 mm lens
Accessories (Optional)	PFA121	Junction box
	PFA152-E	Pole Mount
	PFM320D	Power Adapter

**Accessories**

Optional:



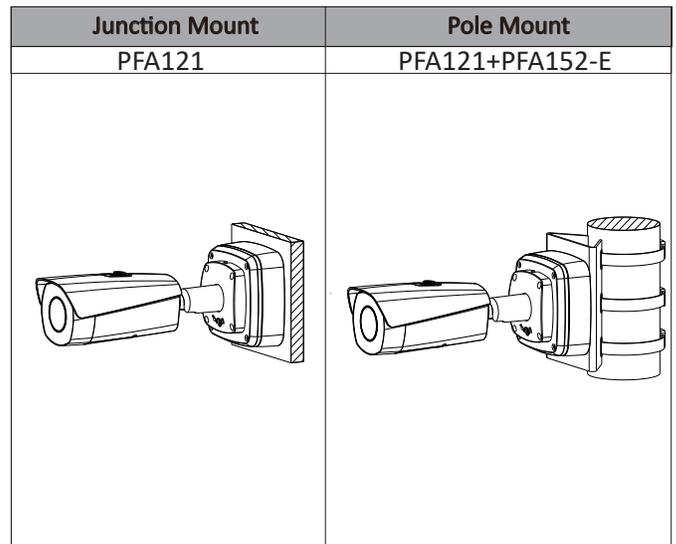
PFA121  
Junction box



PFA152-E  
Pole Mount



PFM320D  
Power Adapter



**Dimensions(mm)**

