DHI-TPC-BF5601

Thermal Network Bullet Camera



- Vanadium oxide uncooled focal plane detector.
- AI functions: heat detection, tripwire, intrusion, and human/vehicle classification.
- Wide input voltage 12 VDC ± 20%, and PoE.
- IP67 rated.

Featuring thermal channel, Thermal Network Bullet Camera offers various AI functions such as heat detection, tripwire, intrusion, and human/vehicle classification. The camera is widely applied in outdoor scenes of the medium-distance perimeter protection and heat detection.

Technical Specification

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	640 (H) × 512 (V)
Pixel Pitch	12 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	≤35 mK (@f/1.0)
Focus Control	Fixed-focal
Aperture	F1.0
Focal Length	5 mm; 7.5 mm; 9 mm; 13 mm; 19 mm; 25 mm; 35 mm
Field of View	5 mm: H: 81°; V: 66° 7.5mm:H: 63.8° ; V: 51° 9 mm: H: 48.6°; V: 38.6° 13 mm: H: 37°; V: 28° 19 mm: H: 22.8°; V: 18.4° 25 mm: H: 17.6°; V: 14.1° 35 mm: H: 12.5°; V: 10°
Close Focus Distance	5 mm: 0.6 m (1.97 ft) 7.5 mm: 1.2 m (3.94 ft) 9 mm: 1.8 m (5.91 ft) 13 mm: 4 m (13.12 ft) 19 mm: 8 m (26.25 ft) 25 mm: 15 m (49.21 ft) 35 mm: 28 m (91.86 ft)
Detection Distance①	5 mm: Vehicle: 641 m (2,103.02 ft); Human: 208 m (682.41 ft) 7.5 mm: Vehicle: 961 m (3,152.89 ft); Human: 312 m (1,023.62 ft) 9 mm: Vehicle: 1,153 m (3,782.81 ft); Human: 375 m (1,230.31 13 mm: Vehicle: 1,666 m (5,465.88 ft); Human: 541 m (1,774.93 ft) 19 mm:Vehicle: 2,435 m (7,988.85 ft); Human: 791 m (2,595.14 ft) 25 mm: Vehicle: 3,205 m (10.515.09 ft); Human: 1,041 m (3,415.35 ft) 35 mm: Vehicle: 4,487 m (14,721.13 ft); Human: 1,458 m (4,783.46 ft)
Recognition Distance②	5 mm:Vehicle: 157 m (515.09 ft); Human: 53 m (173.88 ft) 7.5 mm:Vehicle: 235 m (771.00 ft); Human: 80 m (262.47 ft) 9 mm: Vehicle: 283 m (928.48 ft); Human: 96 m (314.96 ft) 13 mm:Vehicle: 408 m (1,338.58 ft); Human: 139 m (456.04 ft) 19 mm: Vehicle: 597 m (1,958.66 ft); Human: 203 m (666.01 ft) 25 mm: Vehicle: 786 m (2,578.74 ft); Human: 267 m (857.98 ft) 35 mm: Vehicle: 1,100 m (3,608.92 ft); Human: 375 m (1,230.31 ft)
Identification Distance③	5 mm: Vehicle: 79 m (259.19 ft); Human: 26 m (85.30 ft) 7.5 mm: Vehicle: 119 m (390.42 ft); Human: 40 m (131.23 ft) 9 mm: Vehicle: 142 m (465.88 ft); Human: 48 m (157.48 ft) 13 mm: Vehicle: 206 m (675.85 ft); Human: 69 m (226.38 ft) 19 mm: Vehicle: 301 m (987.53 ft); Human: 101 m (331.36 ft) 25 mm: Vehicle: 396 m (1,299.21 ft); Human: 133 m (436.35 ft) 35 mm: Vehicle: 555 m (1,820.87 ft); Human: 187 m (613.52 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).

Digital Detail Enhancement (DDE)	Yes
Thermal AGC	Auto/Manual
Thermal 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)

Audio and Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG
Resolution	Thermal: Main stream: 1280 × 1024; 1280 × 720; 640 × 512; 1280 × 1024 (default) Sub stream: 640 × 512; 320 × 256; 640 × 512 (default)
Video Frame Rate	Thermal (50 Hz): Main stream: 1 fps–50 fps, 25 fps by default Sub stream: 1 fps–50 fps, 15 fps by default Thermal (60 Hz): Main stream: 1 fps–60 fps,30 fps by default Sub stream: 1 fps–60 fps, 15 fps by default
Audio Compression	G.711a; G.711mu; AAC; PCM
Image Encoding Format	JPEG

Function

Network Protocol	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP
Storage	FTP; Micro SD card (optional)
Interoperability	ONVIF; CGI; DaHua SDK
Browser	IE; Firefox; Chrome
User/Host	Up to 20 (total bandwidth: 64 MB)
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access
User Management	Up to 20 users; supports multi-level user permissions (2 levels): management group and user group
Malfunction Detection	Network disconnection detection; IP conflict detection; memory card state detection; memory space detection
Micro SD Card (Max.)	512 GB

Intelligence

Heat Detection	Yes
Cold/Hot Spot Trace	Yes
Perimeter Protection	Yes. Supports tripwire and intrusion.
Target Distinction	Human/Vehicle Classification

Port

Analog Output	1 × CVBS output; BNC port
Network Port	1 × RJ-45 (10/100 Base-T)
Alarm Input	2
Alarm Output	2
Audio Input	1
Audio Output	1
RS-485	1

Power

Power Supply	12 VDC ± 20%, PoE (802.3af), ePoE
Power Consumption	Basic: 5.0 W (12 VDC); 5.5 W (PoE) Max.: 13 W (heater on ,12 VDC); 14 W (heater on, PoE)
ePoE	Yes

Environment

Operating Temperature	–30 °C to +70 °C (–22 °F to +158 °F)
Operating Humidity	≤95%
Storage Temperature	–30 °C to +70 °C (–40 °F to +158 °F)

Physical Characteristics

Protection	IP67
Reliability	Surge protection: 6 kV Air discharge: 15 kV Contact discharge: 8 kV

Structure

Product Dimensions	291 mm × 103 mm × 97 mm (11.46" × 4.06" × 3.82") (L × W × H)
Packaging Dimensions	Package: 365 mm × 175 mm × 176 mm (14.37" × 6.89" × 6.93") (L × W × H) Protection box: 902 mm × 380 mm × 380 mm (35.51" × 14.96" × 14.96") (L × W × H)
Net Weight	≤1.4 kg (3.09 lb)
Gross Weight	≤1.9 kg (4.19 lb)
Bracket	Included

Certification

Certifications	CE; FCC

Heat Detection Distance

Focal Length	Max. Distance
5 mm	30 m (89.43 ft)
7.5 mm	45 m (147.64 ft)
9 mm	56 m (183.73 ft)
13 mm	78 m (255.90 ft)
19 mm	114 m (374.02 ft)
25 mm	150 m (492.13 ft)
35 mm	210 m (688.98 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.

Perimeter Protection Distance

Focal Length	Distance (Human)	Distance (Vehicle)
5 mm	35 m (114.83 ft)	105 m (344.49 ft)
7.5 mm	52.5 m (172.24 ft)	157.5 m (516.73 ft)
9 mm	63 m (206.69 ft)	189 m (620.08 ft)
13 mm	91 m (298.56 ft)	273 m (895.67ft)
19 mm	133 m (436.35 ft)	399 m (1,309.06 ft)

25 mm	175 m (574.15 ft)	525 m (1,722.44 ft)
35 mm	245 m (803.81 ft)	735 m (2,411.42 ft)

Note:
The table displays the measured distances obtained from using the target sizes 1.8 m × 0.5 m (human) and 1.4 m × 4 m (vehicle) 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.

Ordering Information

Type	Model	Description
Security	DHI-TPC-BF5601-B5	Thermal: 5 mm
	DHI-TPC-BF5601-B7	Thermal: 7.5 mm
	DHI-TPC-BF5601-B9	Thermal: 9 mm
	DHI-TPC-BF5601-B13	Thermal: 13 mm
	DHI-TPC-BF5601-B19	Thermal: 19 mm
	DHI-TPC-BF5601-B25	Thermal: 25 mm
	DHI-TPC-BF5601-B35	Thermal: 35 mm
Accessories (Optional)	PFA121 + PFA151	Corner Mount
	PFA121	Junction Mount
	PFA152-E + PFA121	Vertical Pole Mount

Accessories

Optional:



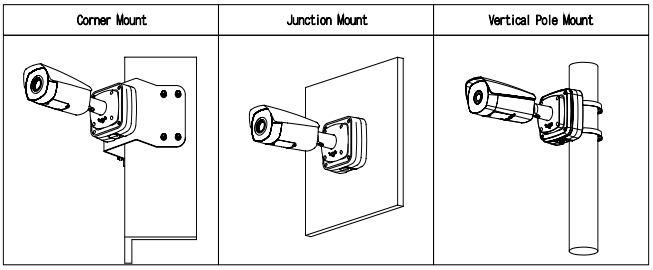
PFA121 + PFA151
Wall Mount



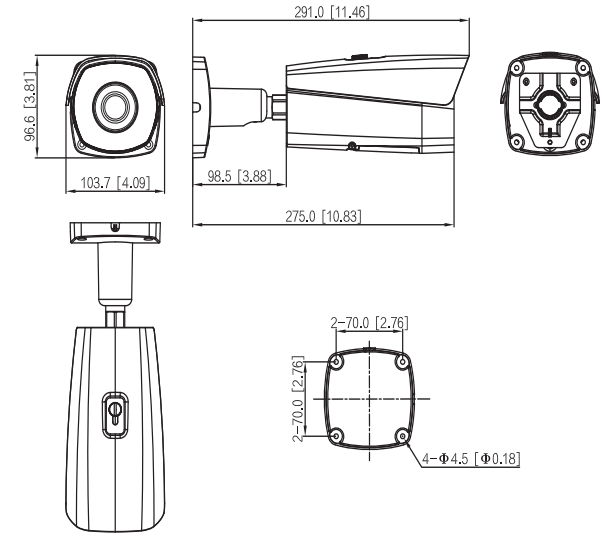
PFA121
Pole Mount



PFA152-E + PFA121
Corner Mount



Dimensions (mm[inch])



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