

# DHI-TPC-SD5441-AC

## Thermal Network Anti-corrosion Hybrid Speed Dome Camera



- Vanadium oxide uncooled focal plane detector.
- 4Megapixel progressive scan CMOS.
- AI functions: boat detection, heat detection, tripwire, intrusion, and human/vehicle classification.
- Maximum IR illumination distance is 100 m.
- Pan: 0° to 360°, tilt: -10° to +90°.
- 36 VDC ± 50%/Hi-PoE+ power supply.
- IP66 rated.
- Anti-corrosion

Featuring thermal and visible channels, Thermal Network Anti-corrosion Hybrid Speed Dome Camera offers various AI functions such as heat detection, smoke detection, tripwire, intrusion, and human/vehicle classification. The camera is applied in outdoor scenes of the medium-distance perimeter protection and heat detection. With the anti-corrosion coating, the camera can be used in scenes where anti-corrosion is required, such as coasts, ports, and coastal cities.

### Technical Specification

#### Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	400 (H) × 300 (V)
Pixel Pitch	17 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	<50 mK (@f/1.0)
Focal Length	25 mm; 35 mm; 50mm
Field of View	25 mm: H: 15.5°; V: 11.6° 35 mm: H: 11.1°; V: 8.3° 50 mm: H: 7.8°; V: 5.8°
Thermal Focus Control	Fixed-focal
Close Focus Distance	25 mm: 0.5 m (1.64 ft) 35 mm: 0.5 m (1.64 ft) 50 mm: 0.5 m (1.64 ft)
Detection Distance <sup>①</sup>	25 mm: Vehicle: 2,262 m (7,422.71 ft); Human: 735 m (2,411.42 ft) 35 mm: Vehicle: 3,167 m (10,391.80 ft); Human: 1,029 m (3,375.98 ft) 50 mm: Vehicle: 4,525 m (14,845.43 ft); Human: 1,470 m (4,822.83 ft)
Recognition Distance <sup>②</sup>	25 mm: Vehicle: 555 m (1,820.67 ft); Human: 189 m (620.08 ft) 35 mm: Vehicle: 777 m (2,548.93 ft); Human: 265 m (869.42 ft) 50 mm: Vehicle: 1,110 m (3,641.33 ft); Human: 378 m (1,240.16 ft)

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

25 mm: Vehicle: 280 m (919.00 ft);  
Human: 95 m (311.68 ft)  
35 mm: Vehicle: 392 m (1,286.60 ft);  
Human: 132 m (433.07 ft)  
50 mm: Vehicle: 560 m (1,838.01 ft);  
Human: 189 m (620.08 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).

#### Digital Detail Enhancement (DDE)

Yes

#### Digital Zoom

19 levels

#### 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)

#### Visible

#### Image Sensor

1/2.8" CMOS

#### Max. Resolution

2688 (H) × 1520 (V)

Pixel	4 MP
Horizontal Definition	Center ≥150 TVL Edge ≥100 TVL
Min. Illumination	Color: 0.01 lux Black & white: 0.001 lux 0 lux (IR on)
Visible AGC	Auto/Manual
Visible Noise Reduction	2D NR/3D NR
S/N Ratio	≥55 dB
White Balance	Auto; manual; indoor; outdoor; tracking; sodium lamp; street lamp; natural
Defog	Electronic defog
Electronic Shutter Speed	1 s–1/30,000 s (auto/manual)
BLC	Yes
WDR	Yes
HLC	Yes
Day/Night	Auto (ICR); Color; B/W
Iris Control	Auto
Image Flip	180°
Exposure Compensation	Yes
Visible Focus Control	Manual
Focal Length	3.95 mm–177.75 mm
Field of View	H: 67.5°–1.9° V: 39.4°–1.1°
Close Focus Distance	1 m–10 m (3.28 ft–32.81 ft)
Illuminator On/Off Control	Auto/Manual
Illumination Distance	100 m (328.08 ft)

## Audio and Video

Video Compression	H.265; H.264M; H.264H; H.264B
Resolution	Thermal: Main stream: 1280 × 1024; 1280 × 720; 640 × 512; 1280 × 1024 (default) Sub stream: 640 × 512; 320 × 256; 640 × 512 (default) Visible: Main stream: 2688 × 1520 (optional); 2560 × 1440; 1080p (1920 × 1080); 1280 × 720; 704 × 576; 2560 × 1440 (default) Sub stream: 1920 × 1080; 1280 × 720; 704 × 576
Video 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 Visible: 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
Image Encoding Format	JPEG

## PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: –10° to +90°
Manual Control Speed	Pan: 0.1°/s to 200°/s Tilt: 0.1°/s to 120°/s
Preset Speed	Pan: 240°/s Tilt: 200°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Privacy Masking	4 areas in the same view
Idle Motion	Preset; auto pattern; auto tour; pan; progressive scan

## Function

Two-way Audio	Yes
Network Protocol	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP; Multicast; SFTP; 802.1x
Region of Interest (RoI)	Yes
Storage	Micro SD card
Micro SD Card (Max.)	512 GB
Interoperability	ONVIF; CGI; Dahua SDK
Browser	IE: IE8 and later Chrome: 42 and earlier Firefox: 42 and earlier
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
PIP	Yes (Intelligence automatically turns off when PIP is on)

## Intelligence

Fire Detection	Yes
Cold/Hot Spot Trace	Yes
IVS (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)

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Alarm Input	7
Alarm Output	2
Audio Input	1
Audio Output	1
RS-485	1

## Power

Power Supply	36 VDC ± 50%, Hi-PoE
Power Consumption	Basic: ≤21 W Max: ≤40 W

## Environment

Operating Temperature	-30 °C to +60 °C (-22 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	-30 °C to +70 °C (-22 °F to +158 °F)

## Physical Characteristics

Protection	IP66
Reliability	Surge protection: 6 kV Air discharge: 8 kV Contact discharge: 6 kV

## Structure

Product Dimensions	Φ240 mm × 382 mm (Φ9.45" × 15.04")
Packaging Dimensions	319 mm × 319 mm × 521 mm (12.56" × 12.56" × 20.51") (L × W × H)
Net Weight	≤8 kg (17.64 lb)
Gross Weight	≤10 kg (22.05 lb)

## Certification

Certifications	CE; FCC; NEMA 4X
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## Heat Detection Distance

Focal Length	Max. Distance
25 mm	1,500 m (4,921.26 ft)
35 mm	2,100 m (6,889.76 ft)
50 mm	3,000 m (9,842.52 ft)

### Note:

The table displays the measured distances obtained from using the target size 0.2 m x 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)
25 mm	175 m (574.15 ft)	525 m (1722.44 ft)
35 mm	245 m (803.81 ft)	735 m (2,411.42 ft)

50 mm	350 m (1,148.29 ft)	1,050 m (3,444.88 ft)
<p>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.</p>		

## Ordering Information

Type	Model	Description
Thermal Camera	DHI-TPC-SD5441-B25Z45-BM-AC-S24	Thermal: 25 mm; Visible: 3.95 mm–177.75 mm
	DHI-TPC-SD5441-B35Z45-BM-AC-S24	Thermal: 35 mm; Visible: 3.95 mm–177.75 mm
	DHI-TPC-SD5441-B50Z45-BM-AC-S24	Thermal: 50 mm; Visible: 3.95 mm–177.75 mm
Accessories	PFA111A	Mount Adapter
	36 V/2.23 A	Power Supply
	10 A/250 V	Power Cord
	PFB303W	Wall Mount
	PFB303WA + PFA120A	Wall Mount
	PFB303WA + PFA120A + PFA155A	Vertical Pole Mount
	PFB300CA	Ceiling Mount
	PFB303WA + PFA120A + PFA151A	Corner Mount

## Accessories

### Included:



PFA111A  
Wall Mount  
Bracket



36 V/2.23 A  
Power Supply



10 A/250 V  
Power Cord

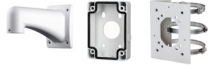


PFB303WA  
Wall Mount  
Bracket

Optional:



PFB303WA + PFA120A  
Wall Mount  
Bracket



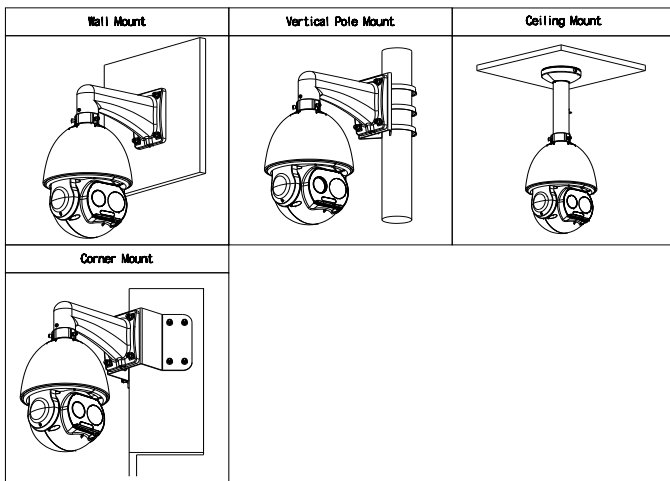
PFB303WA +  
PFA120A + PFA155A  
Vertical Pole Mount  
Bracket



PFB300CA  
Ceiling Mount  
Bracket



PFB303WA + PFA120A  
+ PFA151A  
Corner Mount Bracket



**Dimensions (mm[inch])**

