

DHI-TPC-PT8641D

Thermal Network Multi-spectral Pan & Tilt Camera



- Vanadium oxide uncooled focal plane detector.
- 4 Megapixel progressive scan CMOS.
- Visible lens offers 56× optical zoom.
- Al functions: heat detection, smoke detection, tripwire, intrusion, boat detection, and human/vehicle classification.
- Pan: 0° to 360° endless, tilt: -45° to +90°.
- Optical defog and Optical Image Stabilization (OIS).
- Auto rain-sensing wiper.
- Wide input voltage 24–57 VDC.
- IP66 rated.

Featuring thermal and visible channels, Thermal Network Multi-spectral Pan & Tilt Camera offers various AI functions such as heat detection, smoke detection, tripwire, intrusion, human/vehicle classification and boat detection. The camera has flexible configuration with the laser illuminator and laser ranging optional. It is widely applied in outdoor scenes of the long-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	
Focal Length	50 mm; 75 mm; 100 mm	
Field of View	50 mm: H: 12.4°; V: 9.9° 75 mm: H: 8.3°; V: 6.6° 100 mm: H: 6.2°; V: 5.0°	
Focus Control	Auto; Manual	
Aperture	50 mm: F1.0 75 mm: F1.0 100 mm: F1.1	
Detection Distance $^{\mbox{$1$}}$	50mm: Vehicle: 6,410 m (21,030.18 ft) Human: 2,083 m (6,833.99 ft) 75mm: Vehicle: 9,615 m (31,545.28 ft) Human: 3,125 m (10,252.62 ft) 100mm: Vehicle: 12,821 m (42,063.65 ft) Human: 4,167 m (1,3671.26 ft)	
Recognition Distance [®]	50mm: Vehicle: 1,572 m (5,157.48 ft) Human: 536 m (1,758.53 ft) 75mm: Vehicle: 2,359 m (7,739.5 ft) Human: 804 m (2,637.8 ft) 100mm: Vehicle: 3,145 m (10,318.24 ft) Human: 1,071 m (3,513.78 ft)	

 Identification Distance⁽³⁾
 Human: 268 m (879.27 ft)

 75mm: Vehicle: 1,191 m (3,907.48 ft)

 Human: 402 m (1318.9 ft)

 100mm: Vehicle: 1,587 m (5,206.69 ft)

 Human: 536 m (1,758.53 ft)

Note:

①Detection Distance: Detects objects, but cannot recognize their characteristics (objects must cover more than 3.6 pixels of the image).

50mm: Vehicle:794 m (2,604.99 ft)

(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	
Image Stabilization	Electronic Image Stabilization (EIS)	
Digital Zoom	24 levels	
AGC	Auto; Manual	
Noise Reduction	2D NR; 3D NR	
Image Flip	180°	
Color Palettes	18 (white hot; black hot; fusion; rainbow; globow; ironbow1; ironbow2; sepia; color1; color2; icefire; rain; red hot; green hot; spring; summer; autumn; winter)	
Visible		
Image Sensor	1/1.8" CMOS	
Max. Resolution	2688 (H) × 1520 (V)	

Ultra Series | DHI-TPC-PT8641D

PixelANPRiniluminationBick Corrolls Sing Bick (Ron)AGCKork NanalArade Addet NameSARASynataSolaSynataSolaMarianal: Indoor; outdoor; tracking: sodium JameDafo BalanciOtto India GalanciaDarge StabilizationSolaBactonic Shutter SpeetSolaBradi CalanciaIndia GalanciaBactonic Shutter SpeetSolaBactonic SpeetSola <tr< th=""><th></th><th></th></tr<>			
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Audio Encoding	G.711a; G.711mu; PCM	
Image Encoding Format	JPEG	
PTZ		
Pan/Tilt Range	Pan: 0° to 360° endless Tilt: -45° to +90°	
Manual Control Speed	Pan: 0.1°/s-140°/s Tilt: 0.1°/s-50°/s	
Preset Speed	Pan: 0.1°/s-140°/s Tilt: 0.1°/s-50°/s	
Preset	300	
Tour	8 (up to 32 presets per tour)	
Pattern	5	
Scan	5	
Power-off Memory	Yes	
Privacy Masking	4 blocks	
Idle Motion	Preset; auto pattern; auto tour; pan; progressive scan	
Timing Task	Preset; auto pattern; auto tour; pan; progressive scan	
Position Display	ON/OFF	
Preset Video Freeze	Yes	
Telephoto Speed Limit	Yes	
Positioning Accuracy	±0.1°	
Wiper	Manual/Auto. Supports setting wiper running times, frequency, and period	
3D Positioning	Yes	
Laser Illumination (Op	tional)	
Laser Illumination Consumption	4.2 ± 0.4 W	
Laser Illumination Wavelength	850 ± 10 nm	
Laser Illumination Distance	≥800 m (2,624.67 ft)	
Angle of Laser Illuminator	2° to 70° adjustable	
Laser Zoom Speed	<5 s	
Brightness Setting for Laser Illumination	Auto; Manual	
Laser Range Finder (C	ptional)	
Laser Range Finder Wavelength	905 nm	
Laser Range Finder Distance	≥1,500 m (4,921.26 ft)	
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 (customizable)	
Storage	FTP; Micro SD card (optional)	

Ultra Series | DHI-TPC-PT8641D

Interoperability	ONVIF V22.12; CGI; DaHuaSDK	
Browser	IE: IE8 and later (includs the browsers with IE kernel, such as 360 Explorer, Sougou Explorer) Chrome: 42 and earlier Firefox: 42 and earlier	
User/Host	Up to 12 (total bandwidth: 64 MB)	
Security	Configuration encryption; trusted execution;User account password; security logs; User account lockout; 802.1x;IP/MAC filtering; HTTPS; trustedboot; TLS2.0;	
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		
Heat Detection	Yes. Marks the detected anomaly.	
Cold/Hot Spot Trace	Yes	
Perimeter Protection	Yes. Supports tripwire and intrusion.	
Target Distinction	Human/Vehicle Classification	
Target Filtering	Yes	
Target Tracking	Yes	
Smoke Detection	Yes	
Boat Detection	Yes	
Port		
Analog Output	1 × CVBS output; BNC port	
Network Port	1 × RJ-45 (10/100 Base-T)	
Alarm Input	7	
Alarm Output	2	
Alarm Event	No SD card; low SD card space; SD card error; network disconnection; IP conflict; motion detection; video tampering; intrusion; tripwire; audio detection; defocus on thermal channel	
Audio Input	1	
Audio Output	1	
RS-485	1	
Power		
Power Supply	Wide input voltage 24–57 VDC	
Power Consumption	Basic: 39 W (illuminator off, heater off) Max: 66 W (illuminator on, heater off); 89 W (illuminator on, heater on (for defrost control))	
Environment		
Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)	
Operating Humidity	≤95%	
Storage Temperature -40 °C to +70 °C (32 °F to +158 °F)		
Physical Characteristi	CS	
Protection	IP66	

Reliability	Surge protection: 6 kV Air discharge: 15 kV Contact discharge: 8 kV		
Product Dimensions	520 mm × 266 mm × 427 mm (20.47" × 10.47" × 16.81") (L × W × H)		
Packaging Dimensions	722 mm × 675 mm × 443 mm (28.43" × 26.57" × 17.44") (L × W × H)		
Net Weight	≤22 kg (48.50 lb)		
Gross Weight	≤25 kg (55.12 lb)		
Installation	Desk mount		
Power Adapter	Included		
Lens	Included		
PTZ Outlet	Side		
Certification			
Certifications	CE; FCC		
Heat Detection Distance			
Focal Length	Max. Distance		
50 mm	3,000 m (9,842.52 ft)		

50 mm	3,000 m (9,842.52 ft)
75 mm	4,500 m (14,763.78 ft)
100 mm	6,000 m (19,685.04 ft)

Note:

The table displays the measured distances obtained from using the target size $2 \text{ m} \times 2 \text{ m}$ 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)
50 mm	350 m (1,148.29 ft)	1,050 m (3,444.88 ft)
75 mm	525 m (1,722.44 ft)	1,575 m (5,167.32 ft)
100 mm	700 m (2,296.59 ft)	2,100 m (6,889.76 ft)

Note:

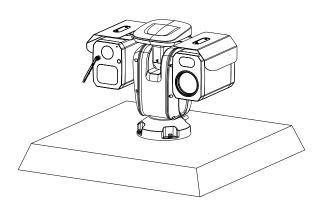
The table displays the measured distances obtained from using the target sizes $1.8 \text{ m} \times 0.5 \text{ m}$ (human) and $1.4 \text{ m} \times 4 \text{ m}$ (vehicle) for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.

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.

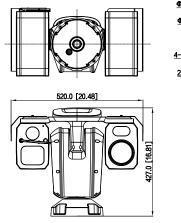
Ultra Series | DHI-TPC-PT8641D

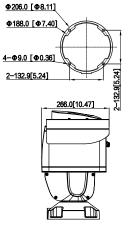
Ordering Information		
Туре	Model	Description
Security	DHI-TPC-PT8641D- B50Z56-DC-DC48-S23	Visible Focal Length: 6 mm–336 mm; Thermal Focal Length: 50 mm
Security	DHI-TPC-PT8641D- B75Z56-DC-DC48-S23	Visible Focal Length: 6 mm–336 mm; Thermal Focal Length: 75 mm
Security	DHI-TPC-PT8641D- B50Z56L-DC-DC48-S23	Visible Focal Length: 6 mm−336 mm; Thermal Focal Length: 50 mm; Laser Illumination Distance ≥800 m (2,624.67 ft)
Security	DHI-TPC-PT8641D- B75Z56L-DC-DC48-S23	Visible Focal Length: 6 mm−336 mm; Thermal Focal Length: 75 mm; Laser Illumination Distance ≥800 m (2,624.67 ft)
Security	DHI-TPC-PT8641D- BM100Z56L-DC- DC48-S23	Visible Focal Length: 6 mm−336 mm; Thermal Focal Length: 100 mm; Laser Illumination Distance ≥800 m (2,624.67 ft)
Security	DHI-TPC-PT8641D- BM1002561R-DC- DC48-S23	Visible Focal Length: 6 mm−336 mm; Thermal Focal Length: 100 mm; Laser Illumination Distance ≥800 m (2,624.67 ft);Laser Range Finder Distance ≥1500 m (4,921.26 ft)

Installation



Dimensions (mm[inch])





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