

DHI-TPC-PT8641C-AC

Thermal Network Anti-corrosion Hybrid PTZ Camera



- Vanadium oxide uncooled focal plane detector.
- 4Megapixel progressive scan CMOS.
- Vari-focus thermal lens.
- Pan: 0° to 360°, tilt: -45° to +60°.
- AI functions: heat detection, tripwire, intrusion, and human/vehicle classification.
- Auto rain-sensing wiper.
- Optical defog and Optical Image Stabilization (OIS).
- Wide input voltage 100–300 VAC.
- Anti-corrosion.

Featuring thermal and visible channels, Thermal Network Anti-corrosion Hybrid PTZ Camera offers various AI functions such as heat detection, smoke detection, tripwire, intrusion, human/vehicle classification, and boat detection. With the laser illuminator, the camera has a good view at night. It is applied in outdoor scenes of the long-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	640 (H) × 512 (V)
Pixel Pitch	17 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	≤35 mK
Focal Length	20 mm–100 mm; 23 mm–230 mm
Field of View	20 mm–100 mm: H: 31.6°–6.2° ; V: 25.1°–5° 23 mm–230 mm: H: 26.6°–2.7°; V: 21.4°–2.2°
Focus Control	Auto; Manual
Aperture	20 mm–100 mm: F1.0 23 mm–230 mm: F1.5
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
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Max. Resolution	2688 (H) × 1520 (V)
Pixel	4 MP
Horizontal Definition	Center ≥ 1200 TVL Edge ≥ 900 TVL
Min. Illumination	6 mm–336 mm: Color: 0.005 Lux@F1.5 Black & white: 0.0005 Lux@F1.5 10 mm–860 mm: Color: 0.001 lux@F3.6; Black & white: 0.0001 lux@F3.6
AGC	Auto; Manual
Noise Reduction	2D NR; 3D NR
S/N Ratio	>55 dB
White Balance	Auto; manual; indoor; outdoor; tracking; sodium lamp; street lamp; natural
Defog	Optical defog
Image Stabilization	Optical Image Stabilization
Electronic Shutter Speed	1 s–1/30,000 s (auto/manual)
BLC	Yes
WDR	Yes
HLC	Yes
Digital Zoom	16 ×
Day/Night	Auto (ICR); Color; B/W
Image Flip	180°
Exposure Compensation	Yes
Focus Control	Auto; semi-auto; manual
Focal Length	6 mm–336 mm; 10 mm–860 mm

Zoom Speed	6 mm–336 mm: <4 s 10 mm–860 mm: <16 s
Field of View	6 mm–336 mm: H: 64.4°–1.28° ; V: 38.37°–0.72° 10 mm–860 mm: H: 20.82°–0.5°; V: 11.9°–0.28°
Close Focus Distance	6 mm–336 mm: 0.1 m–5 m (0.33 ft–16.4 ft) 10 mm–860 mm: 1.5 m–5 m (4.92 ft–16.4 ft)
Optical Zoom	6 mm–336 mm: 56 × 10 mm–860 mm: 86 ×
Aperture	6 mm–336 mm: F1.5–F5.3 10 mm–860 mm: F3.6–F9.7

Audio and Video

Video Compression	H.265; H.264M; H.264H; H.264B
Resolution	Thermal: Main stream: 1280 × 1024; 1280 × 960 ; 1280 × 720; 400 × 300; 1280 × 960 (default) Sub stream: 640 × 512; 640 × 480; 400 × 300; 400 × 300 (default) Visible: Main stream: 2688 × 1520; 2560 × 1440; 1920 × 1080; 1280 × 720; 704 × 576; 352 × 288; 2688 × 1520 (default) Sub stream: 1280 × 720; 704 × 576; 352 × 288; 352 × 288 (default)
Video Frame Rate	PAL: Thermal: Main stream: 1 fps–25 fps, 25 fps by default Sub stream: 1 fps–25 fps, 15 fps by default Visible: Main stream: 1 fps–25 fps, 25 fps by default Sub stream: 1 fps–25 fps, 15 fps by default NTSC: Thermal: Main stream: 1 fps–30 fps, 30 fps by default Sub stream: 1 fps–30 fps, 15 fps by default Visible: Main stream: 1 fps–30 fps, 30 fps by default Sub stream: 1 fps–30 fps, 15 fps by default
Audio Encoding	G.711a; G.711mu; AAC; PCM
Image Encoding Format	JPEG

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: –45° to +60°
Manual Control Speed	Pan: 0.01°/s to 30°/s Tilt: 0.01°/s to 15°/s
Preset Speed	Pan: 0.01°/s to 30°/s Tilt: 0.01°/s to 15°/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; pattern; tour; pan; progressive scan
Timing Task	Preset; tour; pattern; scanning
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 (Optional)

Laser Illumination Consumption	20 W
Laser Illumination Wavelength	808 ± 5 nm
Laser Illumination Distance	≥3,000 m (9,842.52 f)
Angle of Laser Illuminator	0.3° to 13° adjustable
Laser Zoom Speed	<3 s
Brightness Setting for Laser Illumination	Auto; Manual

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)
Interoperability	ONVIF; CGI; DaHuaSDK
Browser	IE: IE8 and later (includes 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	Authorized username and password; attached MAC address; 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

Heat Detection	Yes
Cold/Hot Spot Trace	Yes
Perimeter Protection	Yes
Target Distinction	Human/Vehicle Classification
Target Filtering	Yes (filters by target size)
Target Tracking	Yes (manually tracking and alarm linking tracking)
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	2
Alarm Output	1

Alarm Linkage	Linking presets; tour; pattern; recordings on SD card; digital output; emap on the client
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	100–300 VAC, power adapter is included by default. 48 VDC
Power Consumption	Basic: <100 W (normal operation) Max: <210 W (heater on, illuminator off); <260 W (heater on, illuminator on)

Environment	
Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤95%
Storage Temperature	–40 °C to 80 °C (–40 °F to +176 °F)

Physical Characteristics	
Protection	IP66
Product Dimensions	655 mm × 515 mm × 616.7 mm (25.79" × 20.28" × 24.28") (L × W × H)
Packaging Dimensions	885 mm × 687 mm × 900 mm (34.84" × 27.05" × 35.43") (L × W × H)
Net Weight	≤75 kg (165.35 lb)
Gross Weight	≤105 kg (231.49 lb)
Installation	Plane mount
Power Adapter	Included
Lens	Included
PTZ Outlet	Side
Anti-corrosion Level	Moderate Protection *The products feature high-grade anti-corrosion protection, making them well-suited for environments with standard corrosion resistance requirements. They perform reliably in areas from 2 km (1.24 mi) and above at coastal regions, as well as in locations prone to acid rain exposure.

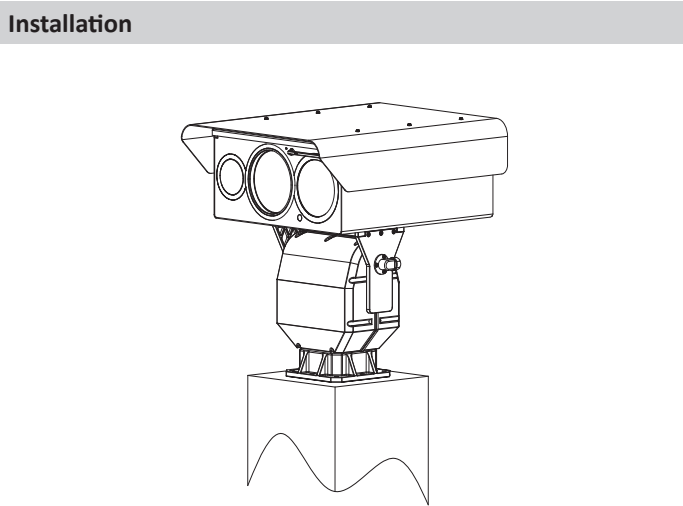
Certification	
Certifications	CE; NEMA 4X

Perimeter Protection Distance (IVS Distance)		
Focal Length	Distance (Vehicle)	Distance (Human)
20 mm–100 mm	2,100 m (6,889.76 ft)	700 m (2,296.59 ft)
23 mm–230 mm	4,830 m (15,846.46 ft)	1,610 m (5,282.15 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.		

DRI Distance			
Focal Length	Detection Distance ^①	Recognition Distance ^②	Identification Distance ^③
20 mm–100 mm	Vehicle: 9,020 m (29,593.18 ft); Human: 2,941 m (9,648.95 ft)	Vehicle: 2,255 m (7,398.29 ft); Human: 735 m (2,411.42 ft)	Vehicle: 1,127 m (3,697.51 ft); Human: 368 m (1,207.35 ft)
23 mm–230 mm	Vehicle: 20,745 m (68,061.02 ft); Human: 6,765 m (22,194.88 ft)	Vehicle: 5,186 m (17,014.44 ft); Human: 1,691 m (5,547.90 ft)	Vehicle: 2,593 m (8,507.22 ft); Human: 846 m (2,775.59 ft)

- ①Detection Distance: Detects objects, but cannot recognize their characteristics (objects must cover more than 1.5 pixels of the image).
- ②Recognition Distance: Classifies objects into general categories, such as human, vehicle (the object must cover more than 6 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 12 pixels of the image).
- Note:
The table is the standard theoretical calculation and is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more. For the intelligent detection distance, refer to the table of Perimeter Protection Distance (IVS Distance) above.

Ordering Information		
Type	Model	Description
Security	DHI-TPC-PT8641C-B20100Z56L3-BM-AC-S53	Visible Focal Length: 6mm–336mm; Thermal Focal Length: 20 mm–100 mm
	DHI-TPC-PT8641C-B23230Z86L3-BM-AC-S53	Visible Focal Length: 10 mm–860 mm; Thermal Focal Length: 23 mm–230 mm



Dimensions (mm[inch])

