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
Detection Distance[1]	20 mm–100 mm: Vehicle: 7,843 m (2,5731.63 ft) Human: 2,941 m (9,648.95 ft) 23 mm–230 mm: Vehicle: 20,814 m (68,288.98 ft); Human: 6,765 m (22,194.88 ft)
Recognition Distance[2]	20 mm–100 mm: Vehicle: 1,961 m (6,433.73 ft) Human: 756 m (2,480.31 ft) 23 mm–230 mm: Vehicle: 5,105 m (16,750.13 ft); Human: 1,739 m (5,705.38 ft)
Identification Distance[3]	20 mm–100 mm: Vehicle: 980 m (3,215.22 ft) Human: 378 m (1,240.16 ft) 23 mm–230 mm: Vehicle: 2,577 m (8,454.83 ft); Human: 870 m (2,854.33 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
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)
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	Optcal defog
Image Stabilization	Optcal Image Stabilizaton

Electronic Shutter Speed	1 s–1/30,000 s (auto/manual)		Pattern	5
BLC	Yes		Scan	5
WDR	Yes		Power-off Memory	Yes
HLC	Yes		Privacy Masking	4 blocks
Digital Zoom	16 ×		Idle Motion	Preset; pattern; tour; pan; progressive scan
Day/Night	Auto (ICR); Color; B/W		Timing Task	Preset; tour; pattern; scanning
Image Flip	180°		Position Display	ON/OFF
Exposure Compensation	Yes		Preset Video Freeze	Yes
Focus Control	Auto; semi-auto; manual		Telephoto Speed Limit	Yes
Focal Length	6 mm–336 mm; 10 mm–860 mm		Positioning Accuracy	± 0.1°
Zoom Speed	6 mm–336 mm: <4 s 10 mm–860 mm: <16 s		Wiper	Manual/Auto. Supports setting wiper running times, frequency, and period
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°		3D Positioning	Yes

Laser Illumination (Optional)

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)		Laser Illumination Consumption	20 W
Optical Zoom	6 mm–336 mm: 56 × 10 mm–860 mm: 86 ×		Laser Illumination Wavelength	808 ± 5 nm
Aperture	6 mm–336 mm: F1.5–F5.3 10 mm–860 mm: F3.6–F9.7		Laser Illumination Distance	≥3,000 m (9,842.52 f)

Audio and Video

			Angle of Laser Illuminator	0.3° to 13° adjustable
Video Compression	H.265; H.264M; H.264H; H.264B		Laser Zoom Speed	<3 s
			Brightness Setting for Laser Illumination	Auto; Manual

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)

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

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

Region of Interest (RoI)	Yes (customizable)
Storage	FTP; Micro SD card (optional)
Interoperability	ONVIF; 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)

Audio Encoding	G.711a; G.711mu; AAC; PCM
Image Encoding Format	JPEG

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

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

Malfunction Detection	Network disconnection detection; IP conflict detection; memory card state detection; memory space detection
PIP	Yes

Intelligence

Preset	300
Tour	8 (up to 32 presets per tour)
Heat Detection	Yes
Cold/Hot Spot Trace	Yes
Perimeter Protection	Yes

Target Distinction	Human/Vehicle Classification
Target Filtering	Yes (fliters 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	≤85 kg (187.39 lb)
Installation	Plane mount
Power Adapter	Included
Lens	Included
PTZ Outlet	Side

Certification

Certifications	CE; FCC; NEMA 4X

Heat Detection Distance

Focal Length	Max.Distance
20 mm–100 mm	6,000 m (19,685.04 ft)
23 mm–230 mm	13,800 m (45,275.59 ft)

Note:
The table displays the measured distances obtained from using the target size 2 m × 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.
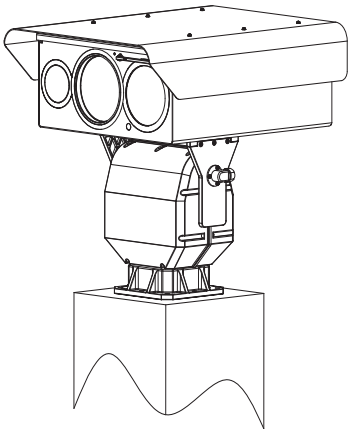
Perimeter Protection Distance

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

Installation

Dimensions (mm[inch])

515.0[20.27]

655.0[25.79]

616.7[24.28]

7−ϕ11.0[0.43]± 0.2[0.01]

166.0[6.54]

166.0[6.54]

173.5[6.83]