

DH-TPC-PT8421A-T

Thermal Network Hybrid Pan & Tilt Camera




Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

System Overview

Featuring a dual lens Pan-Tilt camera, this series provides an all-in-one solution that is especially beneficial for long distance video surveillance and temperature measurement. Together with Dahua Thermal and Starlight technology, the camera's long range capabilities are able to be utilized even at night. The series combines one thermal camera for monitoring in total darkness and one camera with Starlight functionality and a lens for confirming details up close.

Functions

Uncooled VOx Technology

Dahua thermal cameras use uncooled VOx sensor technology. Because of small size and better performance, it is cost-effective solution for thermal security.

High Sensitivity

High thermal sensitivity (< 40mK) makes cameras capture more image details and temperature difference information.

Fire Detection & Alarm

With built-in fire detect function, the camera has the ability to detect fire in a long distance. Thermal camera is sensitive to temperature, so the accuracy of fire detection will be higher than visible camera.

- 400 × 300 uncooled VOx thermal sensor technology
- Athermalized lens (thermal), focus-free
- 1/2.8" 2 megapixel progressive scan CMOS
- Support temperature measurement
- Support detection and alarm of fire
- Max 140°/s pan speed, 360° endless pan rotation
- Up to 300 presets, 5 auto scan, 8 tour, 5 pattern
- 7/2 alarm in/out
- Micro SD memory, IP66

Temperature Measurement

Dahua thermal cameras (-T models) provide remote temperature monitoring functionality with the ability to set temperature threshold alarms. Object temperatures can be monitored in daytime or at night, making them ideal for usage in power plant or oil extraction applications where overheating can be dangerous. When the temperature exceeds the set threshold, an alarm is triggered. The temperature range is between -20 °C to 550 °C.

Intelligent Video System (IVS)

IVS is a built-in video analytics algorithm that delivers intelligent functions to monitor a scene for tripwire violations, intrusion detection. A camera with IVS quickly and accurately responds to monitoring events in a specific area.

Environmental

With a temperature range of -40 °C to +70 °C (-40 °F to +158 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP66 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper (optional) provides users with clear visibility at all times.

Protection

The camera supporting wide range voltage input (100–240V AC), suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

Technical Specification

Thermal

Detector Type	Vanadium Oxide Uncooled Focal Plane Detector			
Max. Resolution	400 × 300			
Pixel Pitch	17µm			
Spectral Range	8µm–14µm			
Thermal Sensitivity (NETD)	≤ 40mK@f/1.0			
Focal Length	25 mm	35 mm	50 mm	100 mm
Field of View	H: 15.6° × V: 11.6°	H: 11.1° × V: 8.3°	H: 7.8° × V: 5.8°	H: 3.9° × V: 2.9°
Effective Distance Human (1.8 m × 0.5 m)	D: 735 m R: 189 m I: 95 m	D: 1029 m R: 265 m I: 132 m	D: 1471 m R: 378 m I: 189 m	D: 2941 m R: 756 m I: 378 m
Effective Distance Vehicle (4.0 m × 1.4 m)	D: 1961 m R: 490 m I: 245 m	D: 2745 m R: 686 m I: 343 m	D: 3922 m R: 980 m I: 490 m	D: 7843 m R: 1961 m I: 980 m
Focus Mode	Athermalized			
Aperture	F1.0	F1.0	F1.0	F1.4
Digital Detail Enhancement (DDE)	Yes			
Image Stabilization	Electronic Image Stabilization			
Digital Zoom	19×			
AGC	Auto; Manual			
Noise Reduction	2D NR; 3D NR			
Image Flip	180°			

Visible

Image Sensor	1/2.8 inch CMOS
Max. Resolution	1920 × 1080
Pixel	2MP
Electronic Shutter Speed	1/30000 s–1/3 s
Min. Illumination	Color: 0.016 Lux Black & white: 0.0175 Lux 0 Lux (IR on)
IR Illumination Distance	100 m
IR Illuminator On/Off Control	Auto; Manual
Focal Length	6.6 mm–330 mm
Aperture	F1.8–F6.5
Field of View	H: 42.34°–1.10°; V: 24.68°–0.62°; D: 48.06°–1.27°
Focus Mode	Auto; Semi-Auto; Manual
Close Focus Distance	1.2 m (3.94 ft)
Iris Control	Auto; Manual
Day/Night	Auto (ICR); Color/B/W
BLC	Yes

WDR	120 dB
HLC	Yes
White Balance	Auto/Manual/Indoor/Outdoor/Tracking/Sodium lamp/Street lamp/Natural
AGC	Auto; Manual
Noise Reduction	2D NR; 3D NR
S/N Ratio	≥ 55 dB
Region of Interest (RoI)	Yes
Defog	Optical Defog
Image Stabilization	Optical Image Stabilization
Optical Zoom	50×
Digital Zoom	16×
Image Flip	180°
Exposure Compensation	Yes

PTZ

Pan/Tilt Range	Pan: 0°–360° endless; Tilt: -45°–+90°
Manual Control Speed	Pan: 0.1°–140°/s; Tilt: 0.1°–50°/s
Preset Speed	Pan: 0.1°–140°/s; Tilt: 0.1°–50°/s
Presets	300
Tour	8
Pattern	5
Scan	5
Power-off Memory	Yes
Privacy Masking	4 areas
Idle Motion	Preset/Tour/Pattern/Scan
Protocol	DH-SD, Pelco-P/D (Auto Recognition)

Intelligence

Advanced Intelligence	Fire Detection & Alarm Cold & Hot Spot Trace Tripwire & Intrusion Human & Vehicle Classification Auto Tracking
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Temperature Measurement

Temperature Range	Low Temperature Mode: -20°C to +150°C (-4°F to +302°F) High Temperature Mode: 0°C to +550°C (+34°F to +1022°F)
Temperature Accuracy	Max (±2°C, ±2%) Operating Temperature: -20°C to +60°C (-4°F to +140°F)
Temperature Mode	Spot: 12 Line: 12 Area: 12 Support 12 rules simultaneously

Video and Audio

Video Compression	H.265/H.264M/H.264H/H.264B/MJPEG
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Resolution	Thermal: Main Stream: SXGA (1280 × 1024)/960P (1280 × 960)/720P (1280 × 720)/400 × 300, 1280 × 960 by default Sub Stream: 640 × 512/640 × 480/400 × 300, 400 × 300 by default Visual: Main Stream: 1080P (1920 × 1080)/720P (1280 × 720)/704 × 576, 1920 × 1080 by default Sub Stream: 704 × 576/352 × 288, 352 × 288 by default
Frame Rate	Thermal(50Hz): Main Stream: 1fps–25fps, 25fps by default; sub stream: 1fps–25fps, 15fps by default Visual(50Hz): Main Stream: 1fps–25fps, 25fps by default; sub stream: 1fps–25fps, 15fps by default Thermal(60Hz): Main Stream: 1fps–30fps, 30fps by default; sub stream: 1fps–30fps, 15fps by default Visual(60Hz): Main Stream: 1fps–30fps, 30fps by default; sub stream: 1fps–30fps, 15fps by default
Audio Compression	G.711a; G.711mu; PCM

Environment

Protocol	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP
Edge Storage	FTP; Micro SD card (256G)
Interoperability	ONVIF; CGI; DAHUA SDK
Browser	IE: IE9 and the later(Edge not support) Google: 42 and the earlier Firefox: 52 and the earlier
User/Host	20
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access
Management Software	Smart PSS, DSS, DMSS

Certification

Certifications	CE: EN 55032:2015; EN 61000-3-2:2014; EN 61000-3-3:2013; EN 50130-4:2011/A1:2014; EN 55024:2010/A1:2015; EN 55035:2017; FCC: FCC Part 15 SubpartB 2019
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Port

Video Interface	1 port (BNC, 1.0V[p-p], 75Ω)
Network	1 10M/100M Ethernet port (RJ-45)
Alarm Input	7
Alarm Output	2
Audio Input	1
Audio Output	1
RS-485	1 pair

Power

Power Supply	30V–48V DC
Power Consumption	Basic: 37W Max: 52W (IR on, heater off) Max: 65W (IR on, heater on)

Environment

Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	≤ 95%
Protection	IP66, anti-surge 6KV, anti-elctrostatic 8KV (touched by objects), anti-elctrostatic 15KV (air)

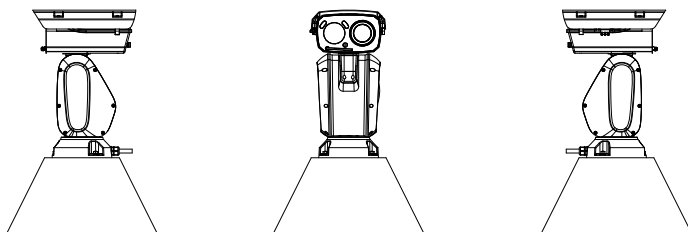
Structure

Product Dimensions (L × W × H)	502.8 mm × 248.4 mm × 344.6 mm (19.80" × 9.78" × 13.57")
Packaging Dimensions	715 mm × 615 mm × 402 mm (28.15" × 24.21" × 15.83")
Net Weight	≤ 15 kg (33.07 lb)
Gross Weight	≤ 40 kg (88.18 lb)

Ordering Information

Type	Model	Description
DH-TPC-PT8421A-T	DH-TPC-PT8421AP-TB25Z50	Thermal: 25 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AN-TB25Z50	Thermal: 25 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AP-TB35Z50	Thermal: 35 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AN-TB35Z50	Thermal: 35 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AP-TB50Z50	Thermal: 50 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AN-TB50Z50	Thermal: 50 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AP-TB100Z50	Thermal: 100 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8421AN-TB100Z50	Thermal: 100 mm lens Visible: 6.6 mm–330 mm lens (With LED)

Installation



Dimensions (mm[inch])

