DH-TPC-PT8621A

Thermal Network Hybrid Pan & Tilt Camera

- 640 × 512 VOx uncooled thermal sensor technology
- Athermalized lens(thermal), focus-free
- 1/2.8" 2 megapixel progressive scan CMOS
- 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

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 in outdoor applications. 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. Their small size and better performance make them a cost-effective solution for thermal security.

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

Fire Detection & Alarm
With built-in fire detection functionality, the camera has the ability to detect fires from long range. Because thermal cameras are sensitive to temperature, they provide higher fire detection accuracy than General Camera, making them particularly fit for applications such as forest fire prevention.

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, and abandoned or missing objects. 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 enviorments 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 (100-300V AC), suitable for the most unstable conditions for outdoor applications. Its 6 kV 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
Effective Pixels	640 × 512
Pixel Pitch	17μm
Spectral Range	8μm–14μm
Thermal Sensitivity (NETD)	≤40mK
Focal Length	35 mm, 50 mm, 75 mm, 100 mm
Field of View	35 mm: horizontal: 17.6°, vertical: 14.1° 50 mm: horizontal: 12.4°, vertical: 9.9° 75 mm: horizontal: 8.3°, vertical: 6.6° 100 mm: horizontal: 6.2°, vertical: 5.0°
Focus Mode	Fixed
Aperture	35 mm, 50 mm, 75 mm: F1.0 100mm: F1.4

	Lens	Detection	Recognition	Identification
Detection Distance	35 mm	Vehicle: 2745 m (9005.91 ft) Human: 1029 m (3375.98 ft)	Vehicle: 686 m (2250.66 ft) Human: 265 m (869.42 ft)	Vehicle: 343 m (1125.33 ft) Human: 132 m (433.07 ft)
	50 mm	Vehicle: 3922 m (12867.45 ft) Human: 1471 m (4826.12 ft)	Vehicle: 980 m (3215.22 ft) Human: 378 m (1240.76 ft)	Vehicle: 490 m (1607.61 ft) Human: 189 m (620.08 ft)
	75 mm	Vehicle: 5882 m (19297.90 ft) Human: 2206 m (7237.53 ft)	Vehicle: 1471 m (4826.12 ft) Human: 567 m (1860.24 ft)	Vehicle: 735 m (2411.42 ft) Human: 284 m (931.76 ft)
	100 mm	Vehicle: 7843 m (25731.63 ft) Human: 2931 m (9616.14 ft)	Vehicle: 1961 m (6433.73 ft) Human: 756 m (2480.31 ft)	Vehicle: 980 m (3215.22 ft) Human: 378 m (1240.16)

Digital Detail Enhancement (DDE)	Yes
Thermal Image Stabilization	Electronic Image Stabilization
AGC	Auto; manual
Noise Reduction	2D NR; 3D NR
Color Palettes	18 color modes selectable such as Whitehot/ Blackhot/Ironrow/Icefire.

Visible

Image Sensor	1/2.8 inch CMOS
Max. Resolution	1920x1080
Visible Effective Pixels	2MP
Min. Illumination	Color: 0.016 Lux@F1.8 (1/30s, 30IRE) Black & white: 0.0175 Lux@F1.8 (1/30s, 30IRE) 0 Lux (IR on)
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
Visible Image Stabilization	Optical Image Stabilization
Electronic Shutter Speed	1/30000s–1/3s
BLC	Yes
WDR	84 dB; DWDR
HLC	Yes
Digital Zoom	16×
Day/Night	Auto (ICR); color/B/W
Iris	Auto
Focus Mode	Auto; semi-auto; manual
Focal Length	6.6 mm–330 mm
Field of View	6.6 mm: horizontal: 42.34°; vertical: 24.68°; diagonal: 48.06° 300 mm: horizontal: 1.10°; vertical: 0.62°; diagonal: 1.27°
DORI Distance	D: 4137 m (13690.94 ft); O: 1655 m (5249.79 ft) ; R: 827 m (2713.25 ft); I: 413 m (1354.99 ft)
Close Focus Distance	1200 mm (47.24 inch)
Optical Zoom	50×
Aperture	F1.8–F6.5

Audio and Video

Video Compression	H.265; H.264M; H.264H; H.264B; MJEPG
Resolution	Thermal: SXGA(1280×1024)/720P(1280×720) / 640×512/320×256 Visual: 1080P (1920×1080)/720P (1280×720)/D1 (704×576/704×480) /CIF (352×288/352×240)
Video Frame Rate	Thermal: 50Hz: Main stream (1280×1024@25fps/1280×720 @25fps/640×512@25fps), sub stream (640×512@25fps/320×256@25fps) 60Hz: Main stream (1280×1024@30fps/1280×720 @30fps/640×512@30fps), sub stream (640×512@30fps/320×256@30fps) Visual: 50Hz: Main stream (1920×1080@25fps/1280×720 @25fps/704×576@25fps), sub stream (704×576@25fps/352×288@25fps) 60Hz: Main stream (1920×1080@30fps/1280×720 @30fps/704×480@30fps), sub stream (704×480@30fps/352×240@30fps)
Audio Compression	G.711a; G.711mu; PCM

Image Encoding Format	JPEG

PTZ

Pan/Tilt Range	Pan: 0°–360° endless;
Manual Control Speed	Pan: 0.1°–140°/s; Tilt: 0.1°–50°/s
Preset Speed	Pan: 140°/s; Tilt: 50°/s
Preset	300
PTZ Mode	5 Auto Scan, 8 Tour, 5 Pattern, Auto Pan
Speed Setup	Human-oriented focal length/ speed adaptation
Power Up Action	Auto restore to previous PTZ and lens status after power failure
Idle Motion	Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period

General Function

Network Protocol	HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/ v6; SNMP; QoS; UPnP; NTP
Region of Interest (ROI)	Yes
Edge Storage	FTP; Micro SD card (256G, hot plug)
Interoperability	ONVIF; GB/T28181; CGI; PSIA; Dahua SDK
Browser	IE: IE8 and the later, and explorer with IE core Google: 42 and the earlier Firefox: 42 and the earlier Safari: 10 and the earlier
User/Host	20 channels at most (the total bandwidth 64M)
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1X; controlled network access
User Management	Support 20 users at most and users are classified as two groups--administrator group and user group.
Malfunction Detection	Network disconnection; IP addresses conflict; SD card error (status or storage space);

General AI Functions

General IVS Analytics	Tripwire/intrusion/auto tracking/human & vehicle classification

Professional and Intelligent

Advanced Intelligent Functions	Fire detection & alarm
Cold/Hot Spot Trace	Auto tracking of the hottest spot and the coldest spot in the thermal image

Port

Network	1 10M/100M Ethernet port (RJ-45)
Alarm Input	7 channels
Alarm Output	2 channels
Audio Input	1 channel
Audio Output	1 channel
RS-485	1 channel

Power

Power Supply	24V/5A±15% AC
Power Consumption	Basic: 25W (LED off) Maximum: 65W (heater on and LED on) and 52W (LED off)

Environment

Operating Temperature	-40°C to +70°C (-40°F to 158°F)
Operating Humidity	≤95%
Self-Adaptive	Auto heating to protect the chip under the cold environment

Physical Characteristics

Protection Grade	IP66, anti-surge 6KV, anti-elctrostatic 8KV (touched by objects), anti-elctrostatic 15KV (air)
Dimensions	502.8 mm × 248.4 mm × 344.6 mm (19.80"x 9.78" x13.57")
Packaging Dimensions	715 mm × 615 mm × 402 mm (28.15"x 24.21" x 15.83")
Net Weight	< 15kg (< 33.07lb)
Gross Weight	< 20kg (< 44.09lb)
Power Adaptor	Contained
Lens	Contained

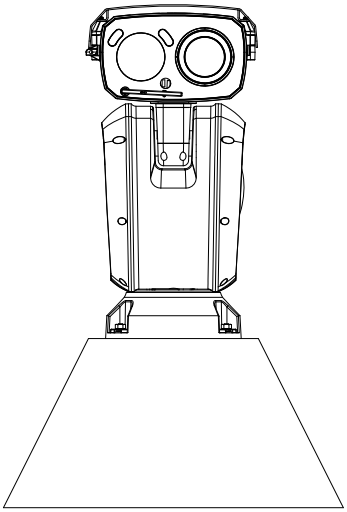
Certification

Certifications	CE (EN 60950:2000); FCC (FCC Part 15 SubpartB)

Ordering Information

Type	Part Number	Description
DH-TPC-PT8621A	DH-TPC-PT8621AP-B35Z50	Thermal: 35 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8621AN-B35Z50	
	DH-TPC-PT8621AP-B50Z50	Thermal: 50 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8621AN-B50Z50	
	DH-TPC-PT8621AP-B75Z50	Thermal: 75 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8621AN-B75Z50	
	DH-TPC-PT8621AP-B100Z50-LED	Thermal: 100 mm lens Visible: 6.6 mm–330 mm lens (With LED)
	DH-TPC-PT8621AN-B100Z50-LED	

Installation Diagram



Dimensions (mm[inch])