DH-TPC-SD8420-B

Thermal Network Hybrid Speed Dome Camera

· 400x300 VOx uncooled thermal sensor technology
· Athermalized Lens(thermal), Focus-free
· 1/1.9" 2Megapixel progressive scan Sony CMOS
· Powerful 30x optical zoom
· Support fire detection & alarm
· Max 240°/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

Ultra Series	40mK °C	Fire Detection	Analysis	AC 24V	IP66

System Overview

Featuring a dual lens speed dome 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 motorized 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 standard cameras, 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.

Auto-tracking

The camera supports auto-tracking. The tracking action can be triggered manually or automatically by defined rules. Once rules are triggered, the camera can zoom in and track the defined target automatically.

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 provides users with clear visibility at all times.

Protection

The camera allows for ±15% input voltage tolerance, 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.

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Technical Specification

Thermal Camera

Image Sensor	Uncooled VOx Microbolometer
Effective Pixels	400(H)x300(V)
Pixel Size	17um
Thermal Sensitivity(NETD)	<40mK@f/1.0
Spectral Range	7~14um
Image Setting	Brightness/Sharpness/ROI/AGC/FFC/3D DNR
Color Palettes	14(Whitehot/Blackhot/Ironrow/Icefire/ Fusion/Rainbow/Globow/Iconbow1/ Iconbow2 .etc)

Thermal Lens

Lens Type	Fixed		
Focus Control	Athermalized, Focus-free		
Focal Length	25mm	35mm	50mm
Angle of View	H:15.5°, V:11.6°	H:10.9°, V:8.2°	H:7.7°, V:5.8°
Effective Distance① Man(1.8m*0.5m)	D②:1000m R③:250m I ④ :125m	D:1300m R:320m I : 160m	D:1700m R: 430m I : 220m
Effective Distance Vehicle(2.3m*2.3m)	D:3000m R:720m I :360m	D:4000m R: 1000m I : 500m	D:5000m R: 1400m I : 700m

Visible Camera

Image Sensor	1/1.9" Sony CMOS
Effective Pixels	1944(H)x1092(V)
Electronic Shutter Speed	1/1 ~ 1/30,000s
Min. Illumination	0.001Lux@F1.5(Color), 0.0001Lux@F1.5(B/W)
S/N Ratio	More than 55dB
IR Distance	150m (492ft)
IR On/Off Control	Auto / Manual
IR LEDs	4

Visible Lens

Focal Length	6mm~180mm
Max Aperture	F1.5 ~ F4.3
Angle of View	H: 59° ~ 2.4°
Optical Zoom	30x
Focus Control	Auto / Manual
Close Focus Distance	100mm~ 1000mm (0.33ft~3.28ft)

PTZ

Pan/Tilt Range	Pan: 0° ~ 360° endless;Tilt:-10° ~ 90°
Manual Control Speed	Pan: 0.1° ~200° /s; Tilt: 0.1° ~120° /s
Preset Speed	Pan: 0.1° ~240° /s ;Tilt: 0.1° ~200° /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
Protocol	DH-SD, Pelco-P/D (Auto recognition)

Video

Compression	H.264 / MJPEG
Frame Rate	Main Stream: Thermal: 1280x1024(default) / 720P @1~25/30fps Visible: 1080P(default) /720P @1~25/30fps
	Sub Stream: Thermal: 640x512(default) / 320x256 @1~25/30fps Visible: CIF(default) / D1 @1~25/30fps
Bit Rate Control	CBR / VBR
Bit Rate	H.264: 640 ~8192Kbps
Day/Night	Auto(ICR) / Color / B/W
BLC Mode	BLC / HLC / WDR
White Balance	Auto / ATW / Indoor / Outdoor / Manual
Noise Reduction	3D DNR
Motion Detetion	Off / On (4 zone, Rectangle)
Region of Interest	Off / On (4 zone)
Electronic Image Stabilization (EIS)	NA
Defog	Off / On
Digital Zoom	19x
Flip	180°
Mirror	Off / On
Privacy Masking	Off / On (4 area, Rectangle)

Audio

Compression	G.711A / G.711Mu / AAC

Intelligence

IVS	Tripwire, Intrusion, Object Abandoned/Missing
Advanced Intelligent Functions	Fire detection & alarm
Tracking Trigger Mode	NA
Tracking Trigger Event	NA

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE, ONVIF
Interoperability	ONVIF Profile S&G, PSIA, CGI
Streaming Method	Unicast / Multicast
Max. User Access	10 Users / 20 Users
Edge Storage	Micro SD (256GB) Memory status display (Normal / Error / Active / Formatting / Lock), NAS (Network Attached Storage), Local PC for instant recording
Web Viewer	<IE11, <Chrome45, <Firefox52
Management Software	Smart PSS, DSS
Smart Phone	Android, Ios

Certifications

Certification	CE (EN 60950:2000) FCC (FCC Part 15 SubpartB)

Interface

Video Interface	1.0Vp-p/75Ω, PAL / NTSC (HDCVI Optional)
Audio Interface	Input/Output 1 Input / 1 Output
RS485	Support
Alarm	7/2 In/Out

Electrical

Power Supply	AC 24V/3A±15%
Power Consumption	17W, Max. 38W (Heater, LEDs on)

Environmental

Operating Condition	-40°C ~ +70°C (-40°F ~ +158°F) / Less than 95% RH * Start up should be done at above-40°C (-40°F)
Strorage Conditions	-40°C ~ +70°C (-40°F ~ +158°F)) / Less than 95% RH
Ingress Protection	IP66

Construction

Casing	Metal
Dimensions	Φ240mm x 382mm (Φ9.45" x 15.04")
Net Weight	6.8Kg (14.99 lb)
Gross Weight	9.5Kg (20.94 lb)

Note:
①Effective distance values shown are nominal values and should be used as estimates only. Exact value calculations depend on a wide variety of conditions.
②D:Detection Distance
③R: Recognition Distance
④I : Identification Distance

Ordering Information

Type	Part Number	Description
DH-TPC-SD8620	DH-TPC-SD8420P-B25Z30 DH-TPC-SD8420N-B25Z30	Thermal: 400x300 25mm lens Visible: 2MP 30X
	DH-TPC-SD8420P-B35Z30 DH-TPC-SD8420N-B35Z30	Thermal: 400x300 35mm lens Visible: 2MP 30X
	DH-TPC-SD8420P-B50Z30 DH-TPC-SD8420N-B50Z30	Thermal: 400x300 50mm lens Visible: 2MP 30X

Accessories

Included:

PFA111 Mount Adapter	AC24V/3A Power Supply	PFB303W Wall Mount

Optional：

PFA140 Power box	PFB300C Ceiling Mount	PFA120 Junction Box
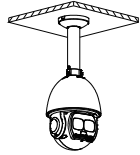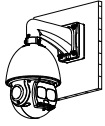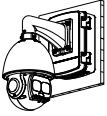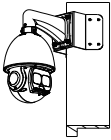
PFA150 Pole Mount	PFA151 Corner Mount

Dimensions (mm)

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239.7[9.44"]
194.6[7.66"]
239.7[9.44"]
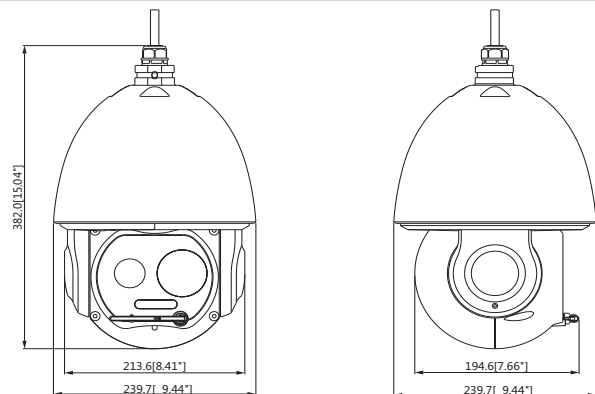
Mounting Type

Ceiling Mount	Junction Mount
PFA111 + PFB300C	PFA111 + PFB303W + PFA120
Power Box Mount	**Pole Mount**
PFA111 + PFB303W + PFA140	PFA111 + PFB303W + PFA150
Corner Mount	**Parapet Mount**
PFA111 + PFB303W + PFA151	PFA111+ PFB303S