DH-TPC-BF8421

Thermal Network Hybrid Bullet Camera

- 400x300 VOx uncooled thermal sensor technology
- Athermalized lens (thermal camera), focus-free
- Support ROI, motion detection, color Palettes
- Support fire detection & alarm
- Built-in 2/2 alarm in/out
- Micro SD memory, IP67

Ultra Series	40mK	Fire Detection	Analysis	AC 24V	IP67

System Overview

Featuring a dual lens fixed bullet 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 . Because of small size and better performance, it's 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. because thermal camera is sensitive to temperature, so the accuracy of fire detection will be higher than visible camera.

Intelligent Video System (IVS)

With built-in intelligent video analytics, the camera has the ability to detect and analyze moving objects for improved video surveillance. The camera provides optional standard intelligence at the edge allowin detection of multiple object behaviors such as abandoned or missing objects. IVS also supports Tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed.

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 IP67 rating makes it suitable for demanding outdoor applications.

Protection

Supporting ±15% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 6KV lightning rating provides protectection against the camera and its structure from the effects of lightning.

Technical Specification

General

Structure	Multi-sensor bullet camera

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	400 x 300
Pixel Pitch	17µm
Spectral Range	8µm–14µm
Thermal Sensitivity (NETD)	≤40mK
Focal Length	25mm; 35mm; 50mm; 75mm; 100mm
Field of View	25mm: horizontal: 15.5°; vertical: 11.6° 35mm: horizontal: 11.1°; vertical: 8.3° 50mm: horizontal: 7.8°; vertical: 5.8° 75mm: horizontal: 5.2°; vertical: 3.9° 100mm: horizontal: 3.9°; vertical: 2.9°
Focus Mode	Manual
Aperture	25mm/35mm/50mm/75mm: F1.0 100mm: F1.4

	Lens	Detect	Recognize	Identify
DRI DRI values are based on the reference: human (1.8 m × 0.5 m) vehicle (4 m × 1.4 m)	25mm	vehicle: 1961m (6433.65ft) human: 735 m (2411.39 ft)	vehicle: 490m (1607.60ft) human: 189m (620.07ft)	vehicle: 245m (803.80 ft) human: 95 m (311.68 ft)
	35mm	vehicle: 2745 m (9005.80 ft) human: 1029 m (3375.94 ft)	vehicle: 686m (2250.63ft) human: 265m (869.41ft)	vehicle: 343m (1125.31 ft) human: 132 m (433.07 ft)
	50mm	vehicle: 3922m (12867.30 ft) human: 1471m (4826.06 ft)	vehicle: 980m (3215.18ft) human: 378m (1240.14ft)	vehicle: 490m (1607.60 ft) human: 189 m (620.07 ft)
	75mm	vehicle: 5882m (19297.67 ft) human: 2206 m (7237.44 ft)	vehicle: 1471m (4826.06ft) human: 567m (1860.21ft)	vehicle: 735m (2411.39 ft) human: 284 m (931.74 ft)
	100mm	vehicle: 7843m (25731.31 ft) human: 2941 m (9648.83 ft)	vehicle: 1961m (6433.65ft) human: 756m (2480.28ft)	vehicle: 980m (3215.18 ft) human: 378 m (1240.14 ft)

Digital Detail Enhancement (DDE)	Yes
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
Effective Pixels	1920 x 1080
Max. Resolution	2MP
Horizontal Definition	≥1083TVL
Min. Illumination	Color: 0.005 Lux@F1.6; black & white: 0.00051 Lux@F1.6; IR light on: 0 Lux
AGC	Auto; manual
Noise Reduction	2D NR; 3D NR

S/N Ratio	>55 dB
White Balance	Auto/manual/indoor/outdoor/tracking/sodium lamp/natural/street light
Electronic Defog	Yes
Electronic Image Stabilization (EIS)	Yes
Electronic Shutter Speed	1/1s–1/100000s (auto or manual)
BLC	Yes
WDR	Yes
HLC	Yes
Day/Night	Auto (ICR); color/B/W
Focus Mode	Auto; semi-auto; manual
Focal Length	3.95mm–177.7mm
Field of View	3.95mm:horizontal: 70.3°; vertical: 43.3°; diagonal: 77.92° 177.7mm:horizontal: 1.8°; vertical: 1.0°; diagonal: 2.06°
DORI Distance	D: 2345 m (7694 ft); O: 938 m (3077 ft); R: 469 m (1539 ft); I: 234 m (768 ft)
Close Focus Distance	100 mm–1000 mm
Optical Zoom	45x
Aperture	F1.6–F4.95
IR Fill Light Control	Auto; manual
Max Fill Light Distance	≥100 m

Audio and Video

Video Compression	H.265; H.264M; H.264H; H.264B; MJEPG
Resolution	Thermal: SXGA (1280 x 1024)/(1280 × 960)/720P (1280 × 720)/400 x 300 Visible: 1080P (1920 × 1080)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/CIF (352 × 288/352× 240)
Video Frame Rate	50Hz: Main stream (1280 × 1024@25fps/1280 × 960@25fps/1280 ×720@25fps/400 x 300@25fps), 1280 × 960@25fps by default; sub stream (640 × 512@25fps/640 ×480@25fps/400 x 300@25fps), 400 x 300 by default 60Hz: Main stream (1280 × 1024@30fps/1280 × 960@30fps/1280 ×720@30fps/400 x 300@30fps), 1280 × 1024@30fps by default; sub stream (640 × 512@30fps/640 × 480@30fps/400 x 300@30fps), 400 x 300 by default
Audio Compression	G.711a; G.711mu; AAC; PCM
Image Encoding Format	JPEG

General Function

Two-way Talk	Yes
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; 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);

Smart Event

General IVS Analytics	Tripwire/intrusion

Professional and Intelligent

Fire Detection	Yes
Cold/Hot Spot Trace	Auto tracking of the hottest spot and the coldest spot in the thermal image
IVS Analytics	Tripwire/intrusion

Port

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

Power

Power Supply	24V AC/3A±15%, 50/60HZ, PoE + (802.3 at)
Power Consumption	Basic power consumption: 16W (24V AC, LED light off) Max power consumption: 28W (24V AC, LED light on)

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

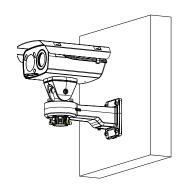## Physical Characteristics

Protection Grade	IP67, anti-surge 6KV, anti-elctrostatic 8KV (touched by objects), anti-elctrostatic 15KV (air)
Dimensions	435.6mmx248.4mmx373.5mm (17.15"x9.80"x14.70")
Packaging Dimensions	557mmx442mmx371mm (22.00"x17.40"x14.61")
Net Weight	<9KG (<19.84lb)
Gross Weight	<14KG (<30.86lb)
Power Adaptor	Contained
Lens	Contained

Certification

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

Ordering Information

Type	Part Number	Description
Thermal Network Hybrid Bullet Camera	DH-TPC-BF8421P/N-B25Z45	Thermal: 400x300 25mm lens Visible: 2MP 3.95mm–177.7mm lens
	DH-TPC-BF8421P/N-B35Z45	Thermal: 400x300 35mm lens Visible: 2MP 3.95mm–177.7mm lens
	DH-TPC-BF8421P/N-B50Z45	Thermal: 400x300 50mm lens Visible: 2MP 3.95mm–177.7mm lens
	DH-TPC-BF8421P/N-B75Z45	Thermal: 400x300 75mm lens Visible: 2MP 3.95mm–177.7mm lens
	DH-TPC-BF8421P/N-B100Z45	Thermal: 400x300 100mm lens Visible: 2MP 3.95mm–177.7mm lens

Installation Diagram (Wall Mount)

Dimensions (mm[inch])

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