DH-TPC-BF1241
WizSense Thermal Network Bullet Camera

- Uncooled VOx thermal sensor technology
- Athermalized lens (thermal camera), focus-free
- 1/2.7'' 4Megapixel progressive scan CMOS
- Wi-Fi Optional
- Support ROI, motion detection, color palettes
- Smoking and call behaviour detection
- Support fire detection & alarm
- Built-in 1/1 alarm in/out
- Micro SD memory, IP67, PoE
- Smart linkage with strobe light & audio
- Dual image fusion (visible and thermal images)

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

System Overview

Featuring a dual lens, fixed camera, this series provides an all-in-one solution for capturing video surveillance for indoor and outdoor applications. Together with Thermal and Visible Technology, the camera is the perfect solution for dark, small area monitoring applications. The series combines one thermal camera for monitoring in total darkness and one visible camera with Smart IR for confirming details.

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 (< 50 mK) 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.

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 allowing detection of multiple object behaviors such as motion detection. IVS also supports tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed.

Smoking Detection
Dahua thermal camera can provide a real-time monitoring, in the use of deep-learning AI technology, to automatically detect people's smoking behavior and provide intelligent voice and light warning (loudspeaker and white light, etc.) in an effort to dissuade smoker, and avoid potential risk and loss

Environmental
With a temperature range of -30 °C to +60 °C (-22 °F to +140 °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 ±20% 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

Thermal

Detector Type	Vanadium Oxide Uncooled FPA		
Max. Resolution	256 × 192		
Pixel Pitch	12 μm		
Spectral Range	8 μm–14 μm		
Thermal Sensitivity (NETD)	< 50 mK (@f/1.0,25Hz,300K)		
Focal Length	3.5 mm	7 mm	10 mm
Field of View	H: 50.6°, V 37.8°	H: 24°, V: 18°	H: 17.3°, V: 13.1°
Close Focus Distance	0.5 m (1.64 ft)	1.0 m (3.28 ft)	2.0 m (6.56 ft)
Effective Distance Human (1.8 m × 0.5 m)	D: 146 m (479 ft) R: 38 m (125 ft) I: 19 m (622 ft)	D: 292 m (958 ft) R: 75 m (246 ft) I: 38 m (125 ft)	D: 417 m (1368 ft) R: 107 m (351 ft) I: 54 m (177 ft)
Effective Distance Vehicle (4.0 m × 1.4 m)	D: 389 m (1276 ft) R: 97 m (318 ft) I: 49 m (161 ft)	D: 778 m (2552 ft) R: 194 m (636 ft) I: 97 m (318 ft)	D: 1111 m (3645 ft) R: 278 m (912 ft) I: 139 m (456 ft)
Aperture	F1.0		
Digital Detail Enhancement (DDE)	Yes		
Digital Zoom	16 ×		
AGC	Auto; Manual		
Noise Reduction	2D NR; 3D NR		
Image Flip	90°; 180°; 270°		
Color Palettes	18 (Whitehot/Blackhot/Ironrow/Icefire/Fusion/Rainbow/Globow/Iconbow1/Iconbow2, etc.)		
Fusion Mode	3 (Warm color; cool color; Ironred)		

Visible

Image Sensor	1/2.7'' CMOS		
Max. Resolution	2336 × 1752		
Pixel	4MP		
Electronic Shutter Speed	1/30000 s–1 s		
Min. Illumination	Color: 0.05 Lux Black & white: 0.005 Lux 0 Lux (IR on)		
IR Illumination Distance	≥ 30 m (98.43 ft)		
IR Illuminator On/Off Control	Auto; Manual		
Focal Length	4 mm	8 mm	12 mm
Aperture	F1.6	F2.0	F2.0
Field of View	H: 71.2° V: 52° D: 92.6°	H: 33.4° V: 25° D: 41.9°	H: 22° V: 16.6° D: 26.9°
Focus Control	Fixed		
Close Focus Distance	1.0 m (3.28 ft)	2.5 m (8.2 ft)	2.5 m (8.2 ft)
Day/Night	Auto (ICR); Color and B/W		
BLC	Yes		

WDR	DWDR
HLC	Yes
White Balance	Auto/Manual/Indoor/Outdoor/Tracking/Street lamp/Natural
AGC	Auto; Manual
Noise Reduction	2D NR; 3D NR
S/N Ratio	≥ 55 dB
Region of Interest (RoI)	Yes
Image Flip	90°; 180°; 270°
Exposure Compensation	Yes

Intelligence

General Intelligence	Tripwire, Intrusion
Advanced Intelligence	Fire Detection & Alarm Cold & Hot Spot Trace Human & Vehicle Classification Smoking Detection Call Detection

Video and Audio

Video Compression	H.265/H.264M/H.264H/H.264B/MJEPG
Resolution	Thermal: Main Stream: 1280 × 960 (1.3M)/XVGA (1024 × 768)/VGA (640 × 480)/256 × 192, 1280 × 960 by default Sub Stream: VGA (640 × 480)/256 × 192, 256 × 192 by default Visual: Main Stream: 2336 × 1752/1080P (1920 × 1080)/720P (1280 × 720)/D1 (704 × 576), 2336 × 1752 by default Sub Stream: 720P (1280 × 720)/D1 (704 × 576)/CIF (352 × 288), 352 × 288 by default
Frame Rate	Thermal 50Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default Visual 50Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default
Audio Compression	G.711a; G.711mu; PCM

Network

Protocol	HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP
Edge Storage	Micro SD card (256 G)
Interoperability	ONVIF; CGI
Browser	IE: IE8 and the later, and explorer with IE core Google: 42 and the earlier Firefox: 42 and the earlier
User/Host	10
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access

Certification

Certifications	CE: EN55032:2015; EN61000-3-2:2014 FCC:CFR 47 FCC Part15 subpart B; ANSI C63.4-2014

Port

Network	1 10M/100M Ethernet port (RJ-45)
Audio Input	1
Audio Output	1
Alarm Input	1
Alarm Output	1
RS-485	1 pair
Wi-Fi Optional	Standard No.:802.11 Frequency: 2.4GHz Transmission rate: 150Mbps Transmission distance: 150 m (no shield, no disturbance)

Power

Power Supply	12V±20% DC/PoE
Power Consumption	Basic: <8W (LED off) Max: <14W (LED on, heater on)

Environment

Operating Temperature	−30°C to +60°C (−22°F to +140°F)
Storage Temperature	−30°C to +70°C (−22°F to +158°F)
Operating Humidity	≤ 95%
Protection	IP67, anti-surge 6KV, anti-elctrostatic 6KV (touched by objects), anti-elctrostatic 8KV (air)

Structure

Product Dimensions	205.5mm × 90.4 mm × 90.1 mm (8.09'' × 3.56'' × 3.55'')
Packaging Dimensions	279 mm × 187 mm × 138 mm (10.98'' × 7.36'' × 5.43'')
Net Weight	≤ 0.9 kg (1.98 lb)
Gross Weight	≤ 1.3 kg (2.87 lb)

Ordering Information

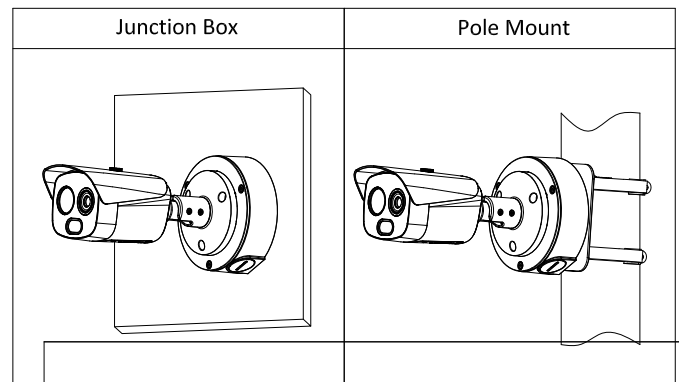| Type	Part Number	Description
Thermal Camera	DH-TPC-BF1241P-D3F4	Thermal: 256 × 192 3.5 mm lens Visible: 4MP 4 mm lens
	DH-TPC-BF1241N-D3F4	
	DH-TPC-BF1241P-D7F8	Thermal: 256 × 192 7 mm lens Visible: 4MP 8 mm lens
	DH-TPC-BF1241N-D7F8	
	DH-TPC-BF1241P-D10F12	Thermal: 256 × 192 10 mm lens Visible: 4MP 12 mm lens
	DH-TPC-BF1241N-D10F12	
	DH-TPC-BF1241P-D3F4-WIFI	Thermal: 256 × 192 3.5 mm lens Visible: 4MP 4 mm lens
	DH-TPC-BF1241N-D3F4-WIFI	
	DH-TPC-BF1241P-D7F8-WIFI	Thermal: 256 × 192 7 mm lens Visible: 4MP 8 mm lens
	DH-TPC-BF1241N-D7F8-WIFI	
	DH-TPC-BF1241P-D10F12-WIFI	Thermal: 256 × 192 10 mm lens Visible: 4MP 12 mm lens
	DH-TPC-BF1241N-D10F12-WIFI	

Accessories	PFA152-E (Optional)	Pole-mount bracket
	PFA130-E (Optional)	Junction box
	PFM320D (Optional)	Power adapter

IVS Range

Focal Length	3.5 mm	7 mm	10 mm
Human (1.8 m × 0.5 m)	26 m	52.5 m	75 m
Vehicle (1.4 m × 4.0 m)	72.5 m	146.5 m	209 m

Note: The table is for reference only. IVS coverage range is stongly infuenced by the site condition, such as the size of the target, atmospheric conditions, the physical installation.

Accessories

PFA152-E
Pole-mount bracket

PFA130-E
Junction box

PFM320D
Power adapter

Junction Box	Pole Mount

Dimensions (mm[inch])