DH-TPC-BF2221

Thermal Network Value Hybrid Bullet Camera

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- 256x192 VOx uncooled thermal sensor technology
- Athermalized Lens (thermal), Focus-free
- 1/2.8" 2Megapixel progressive scan CMOS
- Support ROI, motion detection, color palettes
- Smart alarm linkage with white light & loudspeaker
- Support Fire detection & alarm
- Built-in 2/2 alarm in/out
- Micro SD memory, IP67, PoE/ePoE



System Overview

Featuring a dual lens, fixed bullet camera, this series provides an all-in-one solution for capturing video surveillance for indoor and outdoor applications. Together with thermal and visible-light 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(<50mK) 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-light camera.

Smart Alarm Linkage

When an abnormal event is detected by thermal or visible-light channel, the white light and loudspeaker will turn on to make a visual or voice prompt , then record and snapshot. The white light and the content of loudspeaker is configurable.

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 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 -30 °C to +60 °C, 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

Thermal Camera

Image Sensor	Uncooled VOx Microbolometer	
Effective Pixels	256(H) x 192(V)	
Pixel Size	12um	
Thermal Sensitivity (NETD)	≤50mK	
Spectral Range	8 ~ 14um	
Image Setting	Brightness/Sharpness/ROI/AGC/FFC/3D DNR	
Color Palettes	18(Whitehot/Blackhot/Ironrow/Icefire/ Fusion/Rainbow/Globow/Iconbow1/ Iconbow2 .etc)	

Thermal Lens

Lens Type	Fixed/F1.0	
Focus Control	Athermalized, Focus-free	
Focal Length	3.5mm	7mm
Angle of View	H: 50.6°, V: 37.8°	H: 24°, V: 18°
Effective Distance① Human(1.8m*0.5m)	D: 146m R: 38m I: 19m	D: 292m R: 75m I: 38m
Effective Distance Vehicle(4.0m*1.4m)	D: 389m R: 97m I: 49m	D: 778m R: 194m I: 97m

Visible Camera

Image Sensor	1/2.8" 2M CMOS	
Effective Pixels	1920(H)x1080(V)	
Electronic Shutter Speed	1/1 ~ 1/30,000s	
Min. Illumination	Color: 0.005Lux; B/W: 0.0005Lux; 0Lux (IR on)	
IR Distance	35m	50m
IR On/Off Control	Auto/Manual	
IR LEDs	1	

Visible Lens

Focal Length	4mm	8mm
Max Aperture	F2.0	F1.9
Angle of View	H: 80°, V: 45°	H: 40°, V: 22°
Close Focus Distance	0.2m	

Video

Compression	H.265/H.264M/H.264H/H.264B/MJPEG
Frame Rate	Main Stream: 50Hz: Thermal: 1280*960/1024*768/640*480/256*192@25fps Visible: 1920*1080/1280*720/704*576@25fps 60Hz: Thermal: 1280*960/1024*768/640*480/256*192@30fps Visible: 1920*1080/1280*720/704*480@30fps Sub Stream: 50Hz: Thermal: 640*480/256*192@25fps Visible: 704*576/352*288@25fps 60Hz: Thermal: 640*480/256*192@30fps Visible: 704*480/352*240@30fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 640 ~ 8192Kbps
Day/Night	Auto(ICR)/Color/B/W
BLC Mode	BLC/HLC/DWDR
White Balance	Auto/Indoor/ Outdoor/Manual etc.
Noise Reduction	2D DNR/3D DNR
Motion Detetion	Off/On (4 zone, Rectangle)
Region of Interest	Off/On (4 zone)
Defog	Off/On
Flip	180°
Mirror	Off/On
Privacy Masking	Off/On (4 area, Rectangle)

Audio

Compression	G.711a/G.711Mu/AAC/PCM

Intelligence

IVS	Tripwire, Intrusion
Advanced Intelligent Functions	Fire detection & alarm, Cold/Hot spot trace, Human/Vehicle classification, Smoking detection

Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, SNMP, QoS, UPnP, NTP
Interoperability	ONVIF Profile S & G, API
Streaming Method	Unicast/Multicast
Max. User Access	20 Users

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Edge Storage	micro SD (256G) Memory status display (Normal/Error/Active/Formatting/Lock) NAS (Network Attached Storage) Local PC for instant recording
Web Viewer	>IE8, <Chrome42, <Firefox42, <Safari 10
Management Software	Smart PSS, DSS
Smart Phone	Android, IOS
Certifications	
Certification	CE (EN 60950:2000) FCC (FCC Part 15 SubpartB)
Interface	
Video Interface	1 port(BNC)
Audio Interface	In/Out 1/1
RS485	Support
Alarm	2/2 In/Out
Electrical	
Power Supply	DC 12V±15%/PoE/ePoE
Power Consumption	Max 12W
Environmental	
Operating Condition	-30°C ~ +60°C (-22°F ~ +140°F)
Strorage Conditions	-40°C ~ +70°C (-40°F ~ +158°F)
Relative Humidity	≤ 95%
Ingress Protection	IP67
Construction	
Casing	Metal
Dimensions	279.9mm × 103.8mm× 95.8mm (11.02" x 4.09" x 3.77")
Net Weight	1.4Kg (3.09 lb)
Cross Weight	1.9Kg (4.19 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-BF2221	DH-TPC-BF2221P-B3F4 DH-TPC-BF2221N-B3F4	Thermal: 256x192 3.5mm lens Visible: 2MP 4mm lens
	DH-TPC-BF2221P-B7F8 DH-TPC-BF2221N-B7F8	Thermal: 256x192 7mm lens Visible: 2MP 8mm lens

Accessories

Optional:

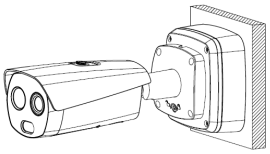
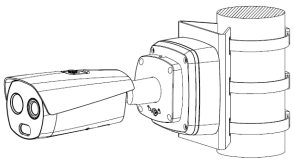


PFA121

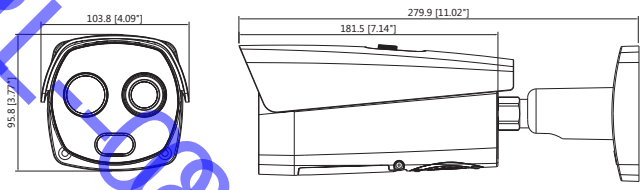


PFA152-E

Mounting Type

Junction Mount	Pole Mount
PFA121	PFA121+PFA152-E
	

Dimensions (mm)



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