

DHI-TPC-KF2241-T-V1

Dahua Thermal Network Hybrid Compact Camera



- Vanadium oxide uncooled focal plane detector.
- 4Megapixel progressive scan CMOS.
- Ultra wide-angle lens.
- Built-in white light.
- Temperature measurement range of -20°C to $+550^{\circ}\text{C}$.
- Magnet mount to power distribution cabinet.
- IP67 rated.
- Supports surge protection of 6 kV, air discharge of 15 kV, and contact discharge of 8 kV.

Featuring thermal and visible channels, Thermal Network Hybrid Compact Camera provides a solution for temperature measurement in narrow spaces. It is widely applied in indoor electrical cabinets, such as power distribution cabinets, electrical equipment cabinets, and server cabinets.

Technical Specification

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	256 (H) $\times$ 192 (V)
Pixel Pitch	12 μm
Spectral Range	8 μm –14 μm
Sensitivity (NETD)	$\leq 50 \text{ mK}@f/1.0$
Focal Length	1.9 mm; 2.2 mm
Field of View	1.9 mm: H: 110° ; V: 74° 2.2 mm: H: 84.8° ; V: 61°
Thermal Focus Control	Fixed-focal
Close Focus Distance	1.9 mm: 0.15 m (0.49 ft) 2.2 mm: 0.20 m (0.66 ft)
Aperture	F1.0
Digital Detail Enhancement (DDE)	Yes
Thermal AGC	Auto; Manual
Thermal Noise Reduction	2D NR; 3D NR
Image Flip	Mirror/ 180°
Color Palettes	18 (white hot/black hot/fusion/rainbow/golden autumn/midday/iron red/amber/jade/sunset/icefire/painting/pomegranate/emerald/spring/summer/autumn/winter)
Temperature Measurement Range	Low temperature mode: -20°C to $+150^{\circ}\text{C}$ (-4°F to $+302^{\circ}\text{F}$) High temperature mode: 0°C to $+550^{\circ}\text{C}$ ($+32^{\circ}\text{F}$ to $+1022^{\circ}\text{F}$) Auto mode

Minimum measurement distance	0.1 m (0.33 ft) (target sizes 0.1 m $\times$ 0.1 m)
Maximum measurement distance	1.5 m (4.92 ft) (target sizes 0.1 m $\times$ 0.1 m)
Temperature Measurement Accuracy	Max. ($\pm 2^{\circ}\text{C}$, $\pm 2\%$) Operating temperature: -20°C to $+60^{\circ}\text{C}$ (-4°F to $+140^{\circ}\text{F}$)
Temperature Measurement Mode	Spot: 12 Line: 12 Area: 12 Supports 12 rules simultaneously

Visible

Image Sensor	1/2.8" CMOS
Max. Resolution	2336 (H) $\times$ 1752 (V)
Pixel	4 MP
Horizontal Definition	Center ≥ 150 TVL Edge ≥ 100 TVL
Min. Illumination	Color: 0.01 lux B/W: 0.001 lux 0 lux (white light on)
Visible AGC	Auto; manual
Visible Noise Reduction	2D NR; 3D NR
S/N Ratio	$> 55 \text{ dB}$
White Balance	Auto; manual; indoor; outdoor; tracking; sodium lamp; street lamp; natural
Electronic Shutter Speed	1 s– $1/30,000$ s (auto/manual)
BLC	Yes
WDR	Yes
HLC	Yes

Day/Night	Color; B/W
Image Flip	180°
Focal Length	2.2 mm; 2.8 mm
Field of View	2.2 mm: H: 120°; V: 88.4° 2.8 mm: H: 93.4°; V: 69.5°
Close Focus Distance	2.2 mm: 0.5 m (1.64 ft) 2.8 mm: 0.7 m (2.29 ft)
Aperture	2.2 mm: F2.0 2.8 mm: F2.2
Illuminator On/Off Control	Auto; Manual
Illumination Distance	4 m (13.12 ft)

Audio and Video

Video Compression	H.265; H.264; H.264H; H.264B;M-JPEG
Resolution	Thermal: Main stream: 1280 × 960; 1280 × 768; 640 × 480; 256 × 192; 1280 × 960 (default); Sub stream: 640 × 480; 256 × 192; 256 × 192 (default) Visible: Main stream: 2336 × 1752; 1920 × 1080; 1280 × 720; 704 × 576; 2336 × 1752 (default); Sub stream: 704 × 576; 352 × 288; 352 × 288 (default)
Video Frame Rate	Thermal (50 Hz): Main stream: 1 fps–25 fps, 25 fps by default; Sub stream: 1 fps–25 fps, 15 fps by default; Visible (50 Hz): Main stream: 1 fps–25 fps, 25 fps by default; Sub stream: 1 fps–25 fps, 15 fps by default; Thermal (60 Hz): Main stream: 1 fps–30 fps, 30 fps by default; Sub stream: 1 fps–30 fps, 15 fps by default; Visible (60 Hz): Main stream: 1 fps–30 fps, 30 fps by default; Sub stream: 1 fps–30 fps, 15 fps by default
Image Encoding Format	JPEG

Function

Sound and Light Alarm	White light alarm prompts
Network Protocol	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP; Multicast; SFTP
Region of Interest (RoI)	Yes
Regional Focus	Yes
Interoperability	CGI
Browser	IE: IE8 and later (includes the browsers with IE kernel, such as 360 Explorer, Sougou Explorer) Chrome: 42 and earlier Firefox: 42 and earlier
User/Host	Up to 6 (total bandwidth: 64 MB)
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access
User Management	Up to 6 users; supports multi-level user permissions (2 levels); management group and user group
Malfunction Detection	Network disconnection detection; IP conflict detection
Fusion Mode	Yes. Disabled by default.
PIP	Yes

Intelligence

Heat Detection	Yes
Cold/Hot Spot Trace	Yes

Port

Network Port	1 × RJ-45 (10/100 Base-T)
Alarm Input	1
Alarm Output	1
RS-485	1

Power

Power Supply	12 VDC ± 20%; PoE (802.3af)
Power Consumption	Basic: <3.6 W (12 VDC, illuminator off, ISP off); <4.5 W (PoE, illuminator off, ISP off); Max: <4.8 W (12 VDC, illuminator on, ISP on); <5.5 W (PoE, illuminator on, ISP on)

Environment

Operating Temperature	−30 °C to +60 °C (−22 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	−30 °C to +60 °C (−22 °F to +140 °F)

Physical Characteristics

Protection	IP67
Reliability	Surge protection: 6 kV Contact discharge of 8 kV Air discharge of 15 kV

Structure

Product Dimensions	113.6 mm × 62.0 mm × 40.6 mm (4.47" × 2.44" × 1.60") (L × W × H)
Packaging Dimensions	239 mm × 110 mm × 71 mm (9.41" × 4.33" × 2.80") (L × W × H)
Net Weight	≤0.5 kg (1.10 lb)
Gross Weight	≤0.6 kg (1.32 lb)
Lens	Included
Bracket	Included: RKN010-02-magnetic bracket assembly Optional: DH-PFB110W-small wall mount-DH816W2

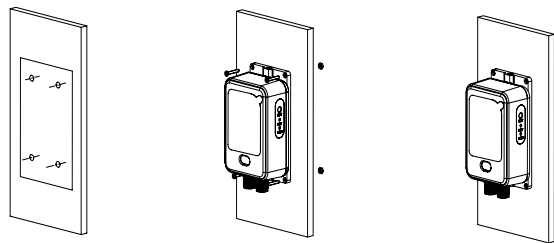
Ordering Information		
Type	Model	Description
Thermal Camera	DHI-TPC-KF2241-TB1F2-S1-V1	Thermal: 256 × 192 1.9 mm lens Visible: 4 MP 2.2 mm lens
	DHI-TPC-KF2241-TB2F2-S1-V1	Thermal: 256 × 192 2.2 mm lens Visible: 4 MP 2.8 mm lens
Accessory	DH-PFB110W	Wall Mount Bracket

Accessories

Optional:

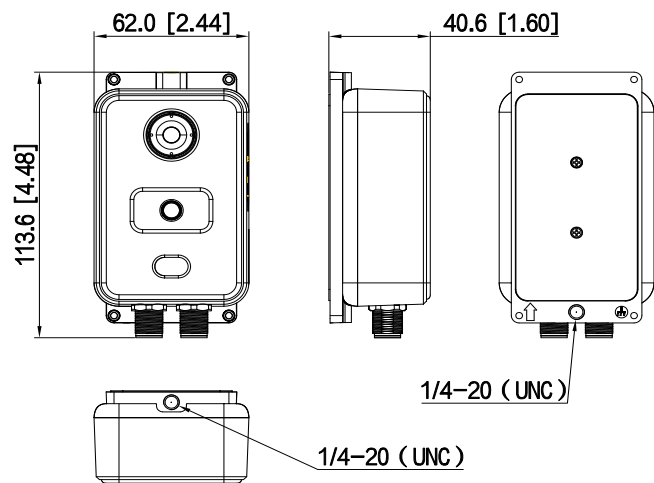


DH-PFB110W
Wall Mount
Bracket



*Use DHI-TPC-KF2241-TB1F2-S1-V1 as an example.

Dimensions (mm[inch])



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