

DHI-TPC-KF2241-T

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 $-20\text{ }^{\circ}\text{C}$ to $+550\text{ }^{\circ}\text{C}$.
- 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.

System Overview

DHI-TPC-KF2241-T Dahua Thermal Network Hybrid Compact Camera has a dual-channel design that uses visible light and thermal imaging to provide a solution for temperature measurement in narrow spaces. It supports up to 18 color palette modes and is ideal for use in a variety of indoor electrical cabinets.

Functions

High Sensitivity

High thermal sensitivity ($\leq 40\text{ mK}$) makes these cameras capture images in fine detail, and detect subtle and large temperature changes.

Uncooled VOx Technology

Dahua thermal cameras use uncooled VOx sensor technology. The detector is small-sized, and highly sensitive allowing the camera to reveal images in greater detail, giving you more visual information on a monitored site. It also improves the accuracy of temperature monitoring, ensuring that even minute temperature changes are detected.

Temperature Measurement ($-20\text{ }^{\circ}\text{C}$ to $+550\text{ }^{\circ}\text{C}$)

Dahua thermal cameras (-T models) remotely monitor temperatures. They are customizable, allowing you to freely set threshold alarms. Whether day or night, the temperature of objects can be monitored, making the camera ideal for use in power plants or at oil extraction sites where overheating can be dangerous. When the temperature exceeds the set threshold, an alarm is immediately triggered. The camera can function in temperatures ranging from $-20\text{ }^{\circ}\text{C}$ to $+550\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $+1022\text{ }^{\circ}\text{F}$).

Scene

It is used to monitor the temperature of various indoor electrical cabinets such as power distribution cabinets, electric appliance 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)	$\leq 40\text{ mK}@f/1.0$
Focal Length	2 mm
Field of View	H: 84.8° V: 61°
Thermal Focus Control	Fixed-focal
Close Focus Distance	0.2 m (0.65 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: $-20\text{ }^{\circ}\text{C}$ to $+150\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $+302\text{ }^{\circ}\text{F}$) High temperature mode: $0\text{ }^{\circ}\text{C}$ to $+550\text{ }^{\circ}\text{C}$ ($+32\text{ }^{\circ}\text{F}$ to $+1022\text{ }^{\circ}\text{F}$) Auto mode
Temperature Measurement Accuracy	Max. ($\pm 2\text{ }^{\circ}\text{C}$, $\pm 2\%$) Operating temperature: $-20\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $+122\text{ }^{\circ}\text{F}$)
Temperature Measurement Mode	Spot: 12 Line: 12 Area: 12 Supports 12 rules simultaneously

Visible

Image Sensor	1/2.8" CMOS
Max. Resolution	2336 (H) × 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 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
Digital Zoom	Yes
Day/Night	Color; B/W
Iris Control	Auto
Image Flip	180°
Exposure Compensation	Yes
Focal Length	2 mm
Field of View	H: 93.4° V: 69.53°
Close Focus Distance	0.2 m (0.66 ft)
Optical Zoom	Fixed
Aperture	F2.0
Illuminator On/Off Control	Auto; manual
Illumination Distance	4 m (13.1 ft)

Audio and Video

Video Compression	H.265; H.264M; 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; 1080p (1920 × 1080; 720p (1280 × 720); D1 (704 × 576); 2336 × 1752 (default) Sub stream: D1 (704 × 576); CIF (352 × 288); 352 × 288 (default)
Video Frame Rate	Thermal (50 Hz & 60 Hz): Main stream: 1 fps–25 fps, 25 fps by default Sub stream: 1 fps–25 fps, 15 fps by default Visible (50 Hz & 60 Hz): Main stream: 1 fps–25 fps, 25 fps by default Sub stream: 1 fps–25 fps, 15 fps by default
Audio Compression	G.711a; G.711mu; PCM
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; IPv4/v6; NTP; Multicast; SFTP
Region of Interest (RoI)	Yes (customizable)
Regional Focus	Yes
Interoperability	CGI
Browser	IE: IE 8 and later 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	Warm color; cold color; fuse with iron oxide red
PIP	Yes

Intelligence

Cold/Hot Spot Trace	Yes
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Port

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

Power

Power Supply	12 VDC ± 20%; PoE (802.3af); ePoE
Power Consumption	Basic: 3 W (12 VDC) Max: 5 W (white light on, adapter excluded)
ePoE	Yes

Environment

Operating Temperature	–20 °C to +50 °C (–4 °F to +122 °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 Air discharge: 15 kV Contact discharge: 8 kV

Structure

Product Dimensions	113.6 mm × 62.0 mm × 39.0 mm (4.47" × 2.44" × 1.53") (L × W × H)
Packaging Dimensions	Protection box: 239 mm × 110 mm × 71 mm (9.41" × 4.33" × 2.80") (W × L × H)

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Net Weight	≤0.5 kg (1.10 lb)
Gross Weight	≤1.0 kg (2.20 lb)
Lens	Included
Bracket	Included: Magnetic mount: RKN010-02 Optional: Wall mount: PFB110W, 816W2

Ordering Information

Type	Model	Description
Radiometry	DHI-TPC-KF2241-T	Dahua Thermal Network Hybrid Compact Camera
Accessory	DH-PFB110W	Wall Mount Bracket

Accessories

Optional:



DH-PFB110W
Wall Mount
Bracket

Magnetic Mount	Bracket Mount1	Bracket Mount2

Dimensions (mm[inch])

