Dahua TECHNOLOGY

DHI-TPC-SDA8641

Thermal Network Smart Linkage Camera

· Vanadium oxide uncooled focal plane detector.

· Starlight 1/1.8" 4Megapixel progressive scan CMOS.

· Thermal PTZ: Pan: 0° to 190°, tilt: −5° to 180°.

· Visible PTZ: Pan: 0° to 360°, tilt: −30° to 90°.

· Visible lens offers 45× optical zoom.

· Thermal and visible channel linkage tracking.

· Offers various AI functions such as tripwire, target filtering and intrusion detection.

· Two-way audio, sound and light alarm.

· IR illumination distance ≥250 m.

· Wide input voltage of 36 VDC ± 25%.

· IP66 rated.

System Overview

Thermal Network Smart Linkage Camera provides an all-in-one solution for video monitoring whether day or night. It has 18 different kinds of thermal pseudo-color modes. It also offers tripwire, intrusion, and multiple types of intelligence.

Functions

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 measurements, ensuring that even minute temperature changes are detected.

High Sensitivity

High thermal sensitivity (< 35 mK) makes these cameras capture images in fine detail, and detect subtle and large temperature changes.

Intelligent Video System (IVS)

With its built-in intelligent video analytics, the camera detects and analyzes moving objects for improved video surveillance. The camera has a wide range of intelligent detection capabilities, allowing the detection of multiple types of objects and object behaviors, such as vehicle detection. IVS also supports tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed.

Scene

It is suitable for use with buildings in compounds, rivers, airports, railways, oil pipelines, scenic spots, farmland, and other scenarios.

Technical Specification

Thermal

Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	640 (H) × 512 (V)
Pixel Pitch	17 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	<35 mK (@f/1.0)
Focal Length	25 mm; 50 mm
Field of View	25 mm: H: 24.6°; V: 19.8° 50 mm: H: 12.4°; V: 9.9°
Thermal Focus Control	Fixed-focal
Close Focus Distance	25 mm: 1 m (3.28 ft) 50 mm: 1 m (3.28 ft)
Detection Distance[①]	25 mm: Vehicle: 1,961 m (6,433.73 ft); Human: 735 m (2,411.42 ft) 50 mm: Vehicle: 3,922 m (12,867.45 ft); Human: 1,471 m (4,826.12 ft)
Recognition Distance[②]	25 mm: Vehicle: 490 m (1,607.61 ft); Human: 189 m (620.08 ft) 50 mm: Vehicle: 980 m (3,215.22 ft); Human: 378 m (1,240.16 ft)
Identification Distance[③]	25 mm: Vehicle: 245 m (803.81 ft); Human: 95 m (311.68 ft) 50 mm: Vehicle: 490 m (1,607.61 ft); Human: 189 m (620.08 ft)

Note:
[①] Detection Distance: Detects objects, but cannot recognize their characteristics (objects must cover more than 3.6 pixels of the image).
[②] Recognition Distance: Classifies objects into general categories, such as human, vehicle (the object must cover more than 14 pixels of the image).
[③] Identification Distance: Classifies objects into specific categories based on their characteristics, such as engineering truck, car (the object must cover more than 28 pixels of the image).

Digital Detail Enhancement (DDE)	Yes
Digital Zoom	19 levels
Thermal AGC	Auto/Manual
Thermal Noise Reduction	2D NR/3D NR
Image Flip	180°; Mirror
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)

Visible

Image Sensor	1/1.8" CMOS
Max. Resolution	2560 (H) × 1440 (V)
Pixel	4 MP
Min. Illumination	Color: 0.001 lux@F1.4 Black & white: 0.0001 lux@F1.4 0 lux (IR 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
Defog	Electronic defog
Electronic Shutter Speed	1 s–1/30,000 s (auto/manual)
BLC	Yes
WDR	Yes
HLC	Yes
Digital Zoom	Yes
Day/Night	Auto (ICR); Color; B/W
Iris Control	Auto
Image Flip	180°
Exposure Compensation	Yes
Visible Focus Control	Auto/semi-auto/manual
Focal Length	5.5 mm–248 mm
Zoom Speed	＜7 s
Field of View	H: 61.8°–2.2° V: 36.3°–1.3° D: 69.2°–2.4°
Close Focus Distance	0.5 m–2 m (1.64 ft–6.56 ft)
Optical Zoom	45×
Aperture	F1.4–F4.5
Illuminator On/Off Control	Auto/Manual
Illumination Distance	250 m (820.21 ft)

Audio and Video

Video Compression	H.265; H.264; H.264H
Resolution	Thermal: Main stream: 1280 × 1024; 1280 × 960 ; 720p (1280 × 720); 400 × 300; 1280 × 960 (default) Sub stream: 640 × 512; 640 × 480; 400 × 300; 400 × 300 (default) Visible: Main stream: 4 MP (2560 × 1440); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576); 1080p (default) Sub stream: D1 (704 × 576); CIF (352 × 288); D1 (704 × 576) (default)
Video Frame Rate	Thermal: Main stream: 1 fps–25 fps, 25 fps by default Sub stream: 1 fps–25 fps, 15 fps by default Visible: 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

PTZ

Pan/Tilt Range	Thermal: Pan: 0° to +190° Tilt: −5° to +180° Visible: Pan: 0° to 360° Tilt: −30° to +90°

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Manual Control Speed	Thermal: Pan: 0.1°/s to 100°/s Tilt: 0.1°/s to 90°/s Visible: Pan: 0.1°/s to 180°/s Tilt: 0.1°/s to 100°/s
Preset Speed	Thermal: Pan: 0.1°/s to 100°/s Tilt: 0.1°/s to 90°/s Visible: Pan: 0.1°/s to 180°/s Tilt: 0.1°/s to 100°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Privacy Masking	4 by default
Idle Motion	Preset; Pattern; Tour; Scan; Horizontal Rotation

Function

Two-way Audio	Yes
Sound and Light Alarm	Yes
Network Protocol	HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP
Region of Interest (RoI)	Yes (customizable)
Storage	Micro SD card
Micro SD Card (Max.)	512 GB
Interoperability	CGI
Browser	IE: IE8 and later Chrome: 42 and earlier Firefox: 42 and earlier
User/Host	Up to 20 (total bandwidth: 64 MB)
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access
User Management	Up to 20 users; supports multi-level user permissions (2 levels): management group and user group
Malfunction Detection	Network disconnection detection; IP conflict detection; memory card state detection; memory space detection
PIP	Yes

Intelligence

Heat Detection	Yes
Cold/Hot Spot Trace	Yes
IVS (Perimeter Protection)	Yes. Supports tripwire and intrusion.
Target Distinction	Human/Vehicle Classification
Target Tracking	Single-scene tracking; multi-scene tracking; panoramic tracking; manual tracking; alarm linked tracking
Smoking Detection	Yes
Call Detection	Yes
Smoke Detection	Yes
Boat Detection	Yes

Port

Network Port	1 × RJ-45 (10/100 Base-T)
Alarm Input	7
Alarm Output	2
Audio Input	1
Audio Output	1
RS-485	1

Power

Power Supply	36 VDC/5A ± 25%
Power Consumption	Basic: 30 W Max: 58 W (illuminator)

Environment

Operating Temperature	−40 °C to +65 °C (−40 °F to +149 °F)
Operating Humidity	≤95%

Physical Characteristics

Protection	IP66
Reliability	Surge protection: 6 kV Air discharge: 15 kV Contact discharge: 8 kV

Structure

Product Dimensions	484.8 mm × 267 mm × 476.5 mm (19.09" × 10.51" × 18.76") (L × W × H)
Packaging Dimensions	708 mm × 380 mm × 580 mm (27.87" × 14.96" × 22.83") (L × W × H)
Net Weight	15.9 kg (35.05 lb)
Gross Weight	21.5 kg (47.40 lb)

Heat Detection Distance

Focal Length	25 mm	50 mm
Heat Detection Distance (Recommended)	750 m (2,460.63 ft)	1,500 m (4,921.26 ft)
Heat Detection Distance (Max.)	1,500 m (4,921.26 ft)	3,000 m (9,842.52 ft)

Note:
The table displays the measured distances obtained from using the target size 0.2 m x 0.2 m for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.
The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Perimeter Protection

Focal Length	25 mm	50 mm
Perimeter Protection Distance (Human)	275 m (902.23 ft)	550 m (1,804.46 ft)
Perimeter Protection Distance (Vehicle)	770 m (2,526.25 ft)	1,540 m (5,052.49 ft)

Note:
The table displays the optimal distance obtained from testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.
The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Ordering Information

Type	Model	Description
Thermal Camera	DHI-TPC-SDA8641-B25Z45-BM-S22	Thermal: 25 mm; Visible: 5.5 mm–248 mm
	DHI-TPC-SDA8641-B50Z45-BM-S22	Thermal: 50 mm; Visible: 5.5 mm–248 mm
Accessories (Optional)	PFB710W	Wall mount bracket
	PFB710C + PFA153	Pole mount bracket + hang mount bracket (pole mount) (horizontal)
	PFB710W + PFA153	Pole mount bracket + wall mount bracket (pole mount) (vertical)

Dimensions (mm[inch])

484.8 [19.09]

476.5 [18.76]

456.5 [17.97]

267.0 [10.51]
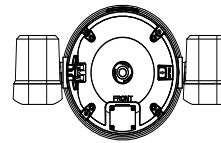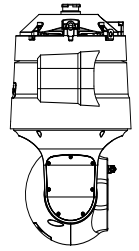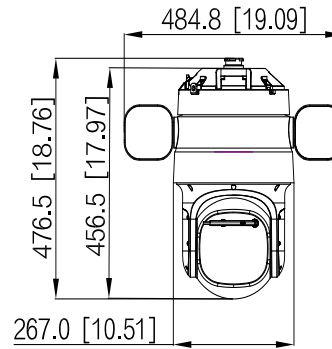
Accessories

Optional:

PFB710W
Wall mount bracket

PFB710C+PFA153
Pole mount bracket + hang mount bracket (pole mount) (horizontal)

PFB710W + PFA153
Pole mount bracket + wall mount bracket (pole mount) (vertical)

Wall Mount	Pole Mount(Horizontal)	Pole Mount(Vertical)
PFB710W	PFB710C+PFA153	PFB710W+PFA153