

# DH-SDT5X405-4F-WA

## Dual 4MP Starlight Hunter AI Camera



AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, Metadata, traffic data statistics, etc. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and more devices. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

### System Overview

Dahua PTZ AI network camera adopts advanced CNN deep learning algorithms to support face recognition with high accuracy. The Dual 4MP Starlight Smart Capture Camera consists of panoramic camera and PTZ camera. Panoramic camera captures panoramas, and then PTZ camera takes detailed snapshots of objects and keeps tracking objects after rule violations occur. This camera possess wide monitor range and PFA algorithm that can always present a clear, focused image while zooming.

### Functions

#### Dual PTZ system

Panoramic camera and Detail camera of the dual PTZ system can be adjusted horizontally and vertically.

#### Face Recognition

Once facial features are extracted from captured faces, they are stored in a database where they can be easily searched and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 10,000 facial images, helping the camera achieve real-time face capture and comparison.

#### Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.001 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

- Dual PTZ system
- 1/1.8" 4Megapixel CMOS
- Powerful 5x optical zoom
- Starlight technology
- Max. 25/30fps@4M
- Deep-learning-based auto tracking and perimeter protection
- Support Hi-PoE
- H.265 Encoding
- IP67



#### PFA Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

#### Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ AI camera: human face, human body, motor vehicle and non-motor vehicle metadata. Facial information includes gender, age, glasses, masks, beards, etc. Human body information includes hat, top, top color, bottom, bottom color, bag, etc. Motor vehicle information includes plate color, type, vehicle color, sunshield, ornament, calling, seatbelt, smoking, annual inspection sticker, etc. Non-motor vehicle information includes type, color, top type, top color, people number, etc.

#### Smart tracking

Human, motor vehicle, and non-motor vehicle, or their combinations can be set as objects. Once the objects selected trigger detection rules (like tripwire and intrusion), the detail camera will track them automatically.

#### Perimeter Protection

Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

#### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

Technical Specification				
<b>Camera</b>				
Image Sensor	Panoramic: 1/1.8" CMOS Detail: 1/1.8" CMOS			
Effective Pixels	Panoramic: 4MP Detail: 4MP			
Max. Resolution	Panoramic: 2688 (H) ×1520 (V) Detail: 2688 (H) ×1520 (V)			
ROM	8GB			
RAM	4GB			
Electronic Shutter Speed	Panoramic: 1/3 s–1/100000 s Detail: 1/1 s–1/100000 s			
Scanning System	Interlaced scanning			
Min. Illumination	Panoramic: Color: 0.0005Lux@F1.0 B/W: 0.0001Lux@F1.0 Detail: Color: 0.001Lux@F1.3 B/W: 0.0001Lux@F1.3 0Lux (IR light on)			
IR Distance	Panoramic (white light): 20 m (75.46 ft)—face recognition 30 m (98.43 ft)—video structuralization Detail (IR light): 100 m (328.08 ft)			
IR On/Off Control	Panoramic: SmartIR/Manual/Off Detail: Zoom Prio/Manual/SmartIR/Off			
IR Number	4 IR lights; 4 white lights			
<b>Lens</b>				
Focal Length	Panoramic: 6 mm (0.23") Detail: 10 mm–50 mm (0.39"–1.97")			
Max. Aperture	Panoramic: F1.0 Detail: F1.3–F1.5			
Field of View	Panoramic: H: 57°; V: 31°; D: 66° Detail: H: 45°–10°; V: 26°–5.7°; D: 51°–11.5°			
Optical Zoom	5x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	Panoramic: 0.2 m (0.66 ft) Detail: 0.5 m–3 m (1.64 ft–9.84 ft)			
Iris Control	Panoramic: Fixed Detail: Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	Panoramic: 110 m (360.89 ft) Detail: 690 m (2263.78 ft)	Panoramic: 44 m (144.36 ft) Detail: 276 m (905.51 ft)	Panoramic: 22 m (72.18 ft) Detail: 138 m (452.76 ft)	Panoramic: 11 m (36.09 ft) Detail: 69 m (226.38 ft)
<b>PTZ</b>				
Pan/Tilt Range	Panoramic: Pan: 0°–360° endless; Tilt: 0°–30° Detail: Pan: 0°–250°; Tilt: -10°–90°			
Manual Control Speed	Panoramic: Pan: 0.1°/s–100°/s; Tilt: 0.1°/s–25°/s Detail: Pan: 0.1°/s–120°/s; Tilt: 0.1°/s–50°/s			
Preset Speed	Panoramic: Pan: 100°/s; Tilt: 50°/s Detail: Pan: 360°/s; Tilt: 200°/s			
Presets	300			
Tour	8 (up to 32 presets per tour)			

Pattern Number	5
Scanning Number	5
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D (auto recognition)
<b>Artificial Intelligence</b>	
Video Metadata	Support human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction.
Perimeter Protection	Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.
Face Recognition	Support
<b>Video</b>	
Compression	H.265/H.265+/H.264+/H.264/MJPEG (sub stream)
Streaming Capability	3 streams
Resolution	Panoramic: 4M (2688 × 1520); 4M (2560 × 1440); 1080P (1920 × 1080); 960P (1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240) Detail: 4M (2688 × 1520); 4M (2560 × 1440); 1080P (1920 × 1080); 960P (1280 × 960); 720P (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Frame Rate	Main stream: 4M/1080P/1.3M/720P (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080P/1.3M/720P/CIF (1–25/30 fps)
Bit Rate Control	Variable Bit Rate/Constant Bit Rate
Bit Rate	H.264: 2816 kbps–13056 kbps H.265: 1024 kbps–7936 kbps
Day/Night	Panoramic: Color/B/W; Detail: Auto (ICR)
BLC	Support
WDR	Panoramic: 120dB; Detail: 120dB
HLC	Support
White Balance	Panoramic: Auto/Indoor/Outdoor/Tracking/Manual/ Sodium lamp/Natural light/Street lamp Detail: Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	0°/180°
<b>Audio</b>	
Compression	G.711A; G.711Mu; G.726; AAC; MPEG2-Layer2; G.722.1; G.729

**Network**

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMP; DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; SNMPv1/v2c/v3(MIB-2); RTCP
Interoperability	ONVIF; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (Total bandwidth 64M)
Edge Storage	P2P; FTP; Micro SD (128G)
Browser	IE7 and later versions Chrome 45 and earlier versions Firefox 52 and earlier versions Safari 12 and earlier versions
Management Software	SmartPSS/DSS/NVR

**Certification**

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4-2014
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**Port**

Audio In	1 (LINE IN bare wire)
Audio Out	1 (LINE OUT bare wire)
Alarm	2/1 Digital input: 0-5V DC

**Power**

Power Supply	DC36V/2.23A±25% Hi-PoE
Power Consumption	Basic: 21W Max.: 40W (PTZ, zoom, focus, IR light, white light, and smart plan enabled)

**Environment**

Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	≤95%
Ingress Protection	IP67; TVS 8000V lightning protection; surge protection

**Structure**

Dimensions	385 mm × Φ277 mm (15.16" × Φ10.91")
Net Weight	9 kg (19.84 lb)
Gross Weight	13.8 kg (30.42 lb)

**Ordering Information**

Type	Model	Description
Dual-PTZ camera	DH-SDT5X405-4F-WA	Dual 4MP Starlight Hunter AI Camera, PAL
	DH-SDT5X405N-4F-WA	Dual 4MP Starlight Hunter AI Camera, NTSC
	SDT5X405-4F-WA	Dual 4MP Starlight Hunter AI Camera, PAL
	SDT5X405N-4F-WA	Dual 4MP Starlight Hunter AI Camera, NTSC

Accessories	DC36V/2.23A	Power Adapter
	PFB306W-S	Bracket
	PFA150	Bracket
	PFB300C-S	Bracket

**Accessories**

**Included:**



DC36V/2.23A  
Power Adapter



PFB306W-S  
Bracket

**Optional:**



PFA150  
Bracket



PFB300C-S  
Bracket

Wall Mount	Pole Mount	Ceiling Mount
PFB306W-S	PFA150+PFB306W-S	PFB300C-S

**Dimensions (mm[inch])**

