

DH-SD5A425XA-HNR

4MP 25x Starlight + IR PTZ AI Network 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, ANPR, Metadata, People Counting, 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 video structuralization and perimeter protection with high accuracy. Together with infrared illumination and Starlight technology, the camera is the perfect solution for dark, lowlight applications. The series combines a day/night mechanical IR cut filter for the highest image quality in variable lighting conditions during the day, and True WDR for applications with direct sunlight or glare.

Functions

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.

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.

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.

- 1/1.8" 4Megapixel CMOS
- Powerful 25x optical zoom
- Starlight+ Technology
- Max. 25/30fps@4MP
- IR distance up to 150m
- SMD Plus
- Deep-learning-based perimeter protection
- Auto-tracking and IVS
- PoE+
- IP67 , IK10



Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

SMD Plus

With Deep-Learning Algorithm, Dahua SMD Plus filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicle intrude.

Technical Specification						
Camera					Perimeter Protection	
Image Sensor	1/1.8" CMOS				SMD Plus	
Max. Resolution	4MP				Auto Tracking	
Effective Pixels	2560 (H)×1440 (V)				Face Detection	
ROM	4GB				Support	
RAM	1GB				General Intelligence	
Electronic Shutter Speed	1/3–1/30000s				Event Trigger	
Scanning Mode	Progressive Scanning				General IVS	
Minimum Illumination	Color: 0.001Lux@F1.6 B/W: 0.0001Lux@F1.6 0Lux (IR light on)				Motion detection, video tampering, scene changing, Network disconnection, IP address conflict, illegal access, and storage anomaly.	
IR Distance	150 m (492.13 ft)				Object Abandoned/Missing	
IR On/Off Control	Zoom Prio/Manual/SmartIR				Video	
IR LED Number	4				Compression	
Lens					Streaming Capability	
Focal Length	5.8mm~145mm				Resolution	
Aperture	F1.6-4.0				Frame Rate	
Field of View	H: 59.8°–2.8°; V: 33.7°–1.9°; D: 63.3°–4°				Bit Rate Control	
Optical Zoom	25x				Bit Rate	
Focus Control	Auto/Semi-Auto/Manual				Day/Night	
Close Focus Distance	0.1 m–2 m				BLC	
Iris Control	Auto/Manual				WDR	
DORI Distance	Detect	Observe	Recognize	Identify	HLC	
	1724 m (5656.16 ft)	689 m (2260.50 ft)	344 m (1128.61 ft)	172 m (564.30 ft)	White Balance	
PTZ					Gain Control	
Pan/Tilt Range	Pan: 0°–360°; Tilt: -15°–+90°				Noise Reduction	
Manual Control Speed	Pan: 0.1°/s–300°/s; Tilt: 0.1°/s–200°/s				Motion Detection	
Preset Speed	Pan: 400°/s; Tilt: 300°/s				Region of Interest (RoI)	
Presets	300				Electronic Image Stabilization (EIS)	
Tour	8(up to 32 preset per tour)				Defog	
Pattern Number	5				Digital Zoom	
Scanning Number	5				Flip	
Speed Adjustment	Support				Privacy Masking	
Power-off Memory	Support				Certifications	
Idle Motion	Preset/Tour/Pattern/Scanning				Certification	
Protocol	DH-SD Pelco-P/D(Auto recognition)				CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014	
Artificial Intelligence					Audio	
Video Structuralization	Support the detection of motor vehicle, non-motor vehicle, and human.				Audio Compression	
					Port	
					Audio In	

Audio Out	1 (LINE OUT; bare wire)
Alarm Port	2 alarm input port; 1 alarm output port

Network

Ethernet Port	1 RJ-45 Port 10/100Base-T
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMPv1/v2c/v3(MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP
Interoperability	ONVIF Profile S&G; CGI
Streaming Method	Unicast/Multicast
Max. User Access	20 (Total bandwidth 48M)
Edge Storage	FTP; Micro SD card (256G); P2P
Browser	IE7 and newer versions Chrome 42 and older versions Firefox 52 and older versions Safari
Management Software	Smart Player / Smart PSS / DSS / Easy4ip
Smart Phone	IOS/Android

Electrical

Power Supply	AC24V/3A±25% POE+
Power Consumption	11W 20W (IR light on)

Environment

Operating Conditions	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	≤95%RH
Ingress Protection	IP67; IK10; TVS 6000V lightning protection; surge protection

Construction

Dimensions	Φ190 mm×332 mm (7.48"×13.07")
Weight	Net Weight: 4.7 kg (10.36 lb); Gross Weight: 8 kg (17.64 lb)
Casing	Metal

Ordering Information

Type	Model	Description
4MP PTZ Camera	SD5A425XA-HNR	4MP 25x Starlight+ IR PTZ AI Network Camera, PAL
	SD5A425XAN-HNR	4MP 25x Starlight+ IR PTZ AI Network Camera, NTSC
	DH-SD5A425XA-HNR	4MP 25x Starlight+ IR PTZ AI Network Camera, PAL
	DH-SD5A425XAN-HNR	4MP 25x Starlight+ IR PTZ AI Network Camera, NTSC
Accessories	PFB305W	Bracket
	AC24V/3A	Power Adapter
	PFA111	Mount Adapter
	PFB300C	Bracket
	PFA150	Clamp

Accessories

Included:



PFB305W
Bracket



AC24V/3A
Power Adapter

Optional:



PFA111
Mount Adapter



PFB300C
Bracket



PFA150
Clamp

Wall Mount	Hang Mount
PFB305W	PFA111+ PFB300C
Pole Mount	Pole Mount
PFA150+PFB305W	PFA150+ PFA111+ PFB300C

Dimensions (mm[inch])

