

DH-SD5A425MA-HNR

4MP 25X Starlight IR NETWORK PTZ CAMERA




Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

System Overview

Unique and elegant, the black semicircular sphere discreetly monitors from a distance without drawing undue attention to itself. It has a powerful optical zoom, and accurate pan, tilt and zoom capabilities, providing an all-in-one solution for long distance video surveillance of outdoor scenes. Together with infrared illumination and Starlight Technology, the camera is a great solution for dark, low light conditions. The series combines a day and night mechanical IR cut filter to produce high quality images in variable lighting conditions during the day, and True WDR for locations with direct sunlight and glare.

Functions

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

Starlight+ Technology

For challenging low-light conditions, Dahua's Starlight Ultra-low Light Technology offers the best in light sensitivity, capturing color in vivid detail, even in lighting as low as 0.001 lux. The camera uses a set of optical features to balance light throughout the scene, producing clear images in dark environments.

PFA Technology

PFA technology has introduced new methods of judgment that ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms that ensure image clarity when zooming and that shorten focus time. This makes the camera highly advanced in its functions, substantially improving the quality of your experience.

- 1/1.8" 4Megapixel STARVIS™ CMOS.
- 25x optical zoom.
- Starlight+ technology.
- Max. 25/30fps@4MP.
- IR distance up to 150 m.
- Deep-learning-based.
- Auto tracking 3.0.
- Perimeter protection.
- Face detection.
- SMD 4.0.
- IP67.



Interoperability

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

Wide Dynamic Range

The camera produces vivid images, even in high-contrast lighting conditions, by using industry-leading wide dynamic range (WDR) technology. For scenes that quickly alternate between bright and low lighting, WDR adjusts to fully capture both the bright and dark areas of a scene, producing superior quality videos.

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, a flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality videos without straining the network. Smart H.265+ technology outranks standard H.265 video compression, reducing bit rate and storage requirements by up to 70%.

Auto Tracking

This feature controls the pan, tilt and zoom actions of the camera to automatically track an object in motion, to keep it in view of the camera. Tracking 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.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Pixel	4 MP
Max. Resolution	2560 (H) × 1440 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	0.001 lux@1.5 (Color, 30 IRE); 0.0001 lux@1.5(B/W, 30 IRE); 0 lux (Illuminator on)
Illumination Distance	150 m (492.13 ft) (IR)
Illuminator On/Off Control	Zoom Prio; Manual; Auto; Off
Illuminator Number	4 (IR light)

Lens

Focal Length	5.4 mm–135 mm			
Max. Aperture	F1.6–F4.0			
Field of View	H: 61.6°–3.6°; V: 35.7°–2°; D: 66.6°–4°			
Optical Zoom	25 x			
Focus Control	Auto; semi-auto; manual			
Close Focus Distance	0.1 m–2 m (0.33 ft–6.56 ft)			
Iris Control	Auto, manual			
DORI Distance	Detect	Observe	Recognize	Identify
	1862.1 m (6109.25 ft)	735.5 m (2413.06 ft)	372.4 m (1221.78 ft)	186.2 m (610.89 ft)
	*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.			

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless; Tilt: –15° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s–300°/s; Tilt: 0.1°/s–140°/s
Preset Speed	Pan: 0.1°/s–400°/s; Tilt: 0.1°/s–300°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Pattern; Preset; Scan; Tour

Intelligence

IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking
Face Detection	Supports face detection, optimization, capturing pictures, uploading high-quality face snapshots and enhancing face images. Attribute Extraction is also supported, where 6 attributes and 8 expressions can be detected. Face cutout is also offered, where you can cutout one face at a time and customize the size to be a one-inch photo. The supported methods for capturing snapshots are real-time capturing, quality first, and selecting a preferred image among a group of snapshots.
Auto Tracking	Auto tracking
SMD	SMD4.0
Quick Pick	Yes

Video

Video Compression	H.264H;H.264B;Smart H.265+;H.265;MJPEG(Sub Stream);Smart H.264+;H.264M
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 960p (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480);VGA (640 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 4M/3M/1080p/1.3M/720p @ (1–25/30 fps) Sub stream 1: D1/VGA/CIF@ (1–25/30 fps) Sub stream 2: 1080p/1.3M/720p@(1–25/30 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H264: 96 Kbps–14,848 Kbps H265: 38 Kbps–8,960 Kbps
Day/Night	Auto (ICR); Color/B/W
BLC	Yes
WDR	140 dB
HLC	Yes
White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp
Gain Control	Auto; manual
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Electronic Image Stabilization (EIS)
Defog	Electronic
Digital Zoom	16 ×
Image Rotation	180°
Privacy Masking	Up to 24 areas can be set, with up to 8 areas in the same view; Multiple colors and mosaic available
S/N Ratio	≥55 dB

Audio

Audio Compression	PCM; G.711A; G.711Mu; G.726; MPEG2-Layer2; G.722.1; G.729; G.723
Network	
Network Port	RJ-45 (10/100 Base-T)
Network Protocol	FTP;RTMP;IPv6;Bonjour;IPv4;DNS;RTCP;PPPoE;NTP;RTP;802.1x;QoS;HTTPS;SNMP;TCP/IP;DDNS;UPnP;NFS;iCMP;UDP;IGMP;HTTP;SSL;DHCP;SMTP;RTSP;ARP
Interoperability	ONVIF (Profile S & Profile G & Profile T);CGI;SDK
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (512 GB); FTP/SFTP; NAS
Browser	web5.0: IE 9 and later versions; Chrome 41 and later versions; Firefox 52 and later versions; Safari 10 and later versions
Management Software	DMSS;DSS Pro
Mobile Client	iOS; Android

Certification

Certifications	CE:EN55032/EN55035/EN61000-3-2/EN61000-3-3/EN50130-4 FCC: Part15 subpartB UL: UL62368
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Port

Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT, bare wire)
Alarm Input	2 (on-off value input: 0-5 VDC)
Alarm Output	1 channel
Alarm Linkage	Capture; recording; send email; preset; tour; pattern; alarm digital output
Alarm Event	Motion/tampering detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection

Power

Power Supply	24 VDC, 2.5 A ± 25% PoE+ (802.3at)
Power Consumption	Basic: 11 W Max. (Basic power consumption + WDR + IR on + PTZ operation): 22 W (24 VDC)

Environment

Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Operating Humidity	≤95%
Protection	TVS 6000 V lightning proof;IP67; surge protection; voltage transient protection

Structure

Product Dimensions	Φ331.9 mm × 190.4 mm (Φ13.07" × 7.50")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8 kg (17.64 lb)

Ordering Information

Type	Model	Description
4MP WizSense PTZ Camera	DH-SD5A425MA-HNR SD5A425MA-HNR	4MP 25x starlight+ IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	DC24V/2.5A	Power Adapter
	PFA111	Mount Adapter
	PFB300C	Ceiling Mount Bracket
	PFB301C	Ceiling Mount Bracket
	PFA120	Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket

Accessories

Included:



PFB305W
Wall Mount Bracket



DC24V/2.5A
Power Adapter

Optional:



PFA111
Mount Adapter



PFB300C
Ceiling Mount Bracket



PFB301C
Ceiling Mount Bracket



PFA120
Junction Box



PFA150
Pole Mount Bracket



PFA151
Corner Mount Bracket

Wall Mount	Ceiling Mount	Ceiling Mount
PFB305W+PFA120	PFA111+PFB300C	PFA111+PFB301C
Pole Mount(Vertical)	Corner Mount	Pole Mount(Horizontal)
PFB305W+PFA150	PFB305W+PFA151	PFA111+PFB300C+PFA150

Dimensions (mm[inch])

