

# DH-SD4A225DB-R-HNY

## 2MP 25x Invisible IR WizSense Network PTZ Camera



**Wiz Sense**

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

With its powerful optical zoom, and accurate pan and tilt capabilities, the PTZ camera provides 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.

### Functions

#### Starlight Technology

With advanced image processing technology and optical technology, Dahua Starlight technology can provide clear colorful video in the environment of low illuminance. It widely applies to various environments of low illuminance.

#### 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.

#### 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.

- 1/2.8" 2Megapixel STARVIS™ CMOS.
- 25x optical zoom.
- Starlight technology.
- Max. 25/30fps@2MP.
- Invisible IR distance up to 50 m.
- Auto-tracking 1.0.
- Perimeter protection.
- Face detection.
- SMD 3.0.
- IP66.



#### Auto-tracking 1.0

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.

#### 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.

#### SMD

Empowered by Deep-Learning Algorithms, Dahua SMD filters out motion detection alarms triggered by targets that are not a concern. It quickly recognizes humans and vehicles, triggering alarms when an intrusion occurs.

#### Environment (–40 °C to +65 °C, IP66)

Developed to operate in extreme conditions, the camera can function in temperatures ranging from –40 °C to +65 °C (–40 °F to +149 °F) at 95% humidity. It was subjected to rigorous dust and water immersion tests, gaining its IP66 Ingress Protection certification, making it suitable for demanding outdoor applications.

**Technical Specification**

**Camera**

Image Sensor	1/2.8" CMOS
Pixel	2MP
Max. Resolution	1920 × 1080
ROM	128 MB
RAM	512 MB
Electronic Shutter Speed	1/1s~1/30000s
Scanning System	Progressive
Min. Illumination	Color: 0.005lux@F1.6 B/W: 0.0005lux@F1.6 0 lux (Invisible IR on)
Illumination Distance	50 m (164.04 ft, invisible IR)
Illuminator On/Off Control	Zoom Prio; Manual; Auto; Off
Illuminator Number	6 (Invisible IR)

**Lens**

Focal Length	4.8 mm–120 mm			
Max. Aperture	F1.6–F3.5			
Field of View	H: 58.5°–2.8° V: 33.2°–1.5° D: 67.5°–3.2°			
Optical Zoom	25×			
Focus Control	Auto; semi-auto; manual			
Close Focus Distance	0.1 m–1.5 m (0.33 ft–4.92 ft)			
Iris Control	Auto; manual			
DORI Distance	Detect	Observe	Recognize	Identify
	1,655.2 m (5,430.45 ft)	653.8 m (2,145.01 ft)	331.0 m (1,085.96 ft)	165.5 m (542.98 ft)

**PTZ**

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: -5° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s–240°/s Tilt: 0.1°/s–160°/s
Preset Speed	Pan: 240°/s; Tilt: 160°/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
PTZ Protocol	DH-SD

**Intelligence**

IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking
Face Detection	Supports face detection, face track box, capturing pictures, face enhancement; Supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing and quality first
Auto Tracking	Yes
SMD	Yes

**Video**

Video Compression	H.264H; H.264B; Smart H.265+; H.264; H.265; MJPEG (Sub Stream); Smart H.264+
Streaming Capability	3 streams
Resolution	1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 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: 64 kbps–8192 kbps H265:25 kbps–6400 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
WDR	120 dB
HLC	Yes
White Balance	Auto; indoor; outdoor; ATW; 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 (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
S/N Ratio	≥ 55 dB

**Audio**

Audio Compression	G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; PCM
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**Network**

Network Port	RJ-45 (10/100 Base-T)
Network Protocol	FTP;RTMP;IPv6;Bonjour;IPv4;DNS;RTCP;PPPoE;NTP;RTP;802.1x;HTTPS;SNMP;TCP/IP;DDNS;UPnP;NFS;ICMP;UDP;IGMP;SMB;HTTP;SSL;DHCP;SMTP;SNMPv1/v2c/v3(MIB-2);Qos;RTSP;ARP

Interoperability	CGI;SDK;ONVIF (Profile S&G&T);P2P
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (512 GB); FTP/SFTP; NAS
Browser	IE 9 and later versions Chrome 41 and later versions Firefox 50 and later versions iOS 10 and later versions
Management Software	DSS;DSS Pro
Mobile Client	iOS;Android

### Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL62368-1
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### Port

Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT, bare wire)
Alarm Linkage	Capture; preset; tour; pattern; recordings on SD card; alarm digital input; send email; audio
Alarm Event	Motion/Tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection;
Alarm I/O	2/1
Audio I/O	1/1

### Power

Power Supply	12 VDC/2 A ± 10% (included) PoE+ (802.3at)
Power Consumption	Basic: 11 W Max.: 20 W (illuminator on + fan on + PTZ)

### Environment

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Humidity	≤ 95%
Protection	IP66, TVS 6000 V lightning proof; surge protection; voltage transient protection

### Structure

Product Dimensions	170.4 mm × Φ171.1 mm (6.71" × Φ6.74")
Net Weight	2.5 kg (5.51 lb)
Gross Weight	3.2 kg (7.05 lb)

### Ordering Information

Type	Model	Description
2MP WizSense PTZ Camera	DH-SD4A225DB-R-HNY	2MP 25x Starlight Invisible IR WizSense Network PTZ Camera
	SD4A225DB-R-HNY	2MP 25x Starlight Invisible IR WizSense Network PTZ Camera
Accessories	DC 12 V/2A	Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card
	PFA101	Mount Adapter
	PFA303W	Wall Mount Bracket
	PFB300C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket
	PFB5310C	In-ceiling Mount

### Accessories

#### Included:



DC 12 V/2A  
Power Adapter

#### Optional:



PFM900-E  
Integrated  
Mount Tester



TF-P100  
MicroSD Memory  
Card



PFA101  
Mount Adapter



PFB303W  
Wall Mount  
Bracket



PFB300C  
Ceiling Mount  
Bracket



PFA150  
Pole Mount  
Bracket




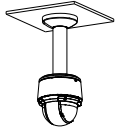

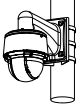
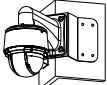
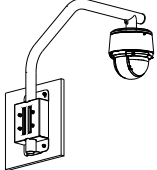

PFA151  
Corner Mount  
Bracket



PFB303S  
Parapet Mount  
Bracket



PFB5310C  
In-ceiling Mount

Ceiling Mount	Ceiling Mount PFA101+PFB300C	Wall Mount PFA101+PFB303W
		
Pole Mount (Vertical) PFA101+PFB303W+PFA150	Corner Mount PFA101+PFB303W+PFA151	Parapet Mount PFA101+PFB303S
		
In-ceiling Mount PFB5310C		
		

**Dimensions (mm[inch])**

