

# DH-SD49425XB-HNR-S3 (DH-SD49425ZB-HNR)

## 4MP 25x Starlight IR WizSense Network PTZ Camera




Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopts 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

Dahua PTZ WizSense network camera adopts advanced CNN deep learning algorithms to support Perimeter Protection with high accuracy. This camera possesses wide monitor range, PFA algorithm that can always present a clear, focused image while zooming. The camera has very excellent low light performance due to adopting the latest starlight technology. The camera is equipped with smooth control, high quality image and good protection, which makes it meet most of the requirements of video surveillance applications.

### 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.

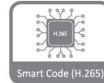
#### Starlight Technology

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 0.005 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.

- 1/2.8" 4Megapixel STARVIS™ CMOS
- Powerful 25x optical zoom
- Starlight technology
- Max. 25/30 fps@4M
- IR distance up to 100 m
- Perimeter protection
- Face detection
- SMD Plus
- IP66



### Environment

Developed to operate in extreme conditions, the camera can function in temperatures ranging from  $-40^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+149^{\circ}\text{F}$ ) 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.

### 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 (120 dB) adjusts to fully capture both the bright and dark areas of a scene, producing superior quality videos.

### Protection

The camera allows for 6 kV lightning rating, which provides effective protection for both the camera and its structure against lightning.

### 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%.

Technical Specification				
<b>Camera</b>				
Image Sensor	1/2.8" CMOS			
Pixel	4 MP			
Max. Resolution	2560 (H) × 1440 (V)			
ROM	256 MB			
RAM	512 MB			
Electronic Shutter Speed	1/1 s–1/30,000 s			
Scanning System	Progressive			
Min. Illumination	Color: 0.005 lux@F1.6 B/W: 0.0005 lux@F1.6 0 lux (IR light on)			
Illumination Distance	100 m (328.08 ft) (IR)			
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR; Off			
Illuminator Number	4 (IR)			
<b>Lens</b>				
Focal Length	4.8 mm–120 mm			
Max. Aperture	F1.6–F3.8			
Field of View	H: 56.2°–2.6°; V: 32.5°–1.5°; D: 63.2°–3°			
Optical Zoom	25x			
Focus Control	Auto; Semi-auto; Manual			
Close Focus Distance	1.5 m (4.92 ft)			
Iris Control	Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	2,400 m (7,874.02 ft)	948 m (3,110.24 ft)	480 m (1,574.80 ft)	240 m (787.40 ft)
<b>PTZ</b>				
Pan/Tilt Range	Pan: 0° to 360° endless Tilt: –15° to +90°, auto flip 180°			
Manual Control Speed	Pan: 0.1°/s–200°/s Tilt: 0.1°/s–100°/s			
Preset Speed	Pan: 200°/s; Tilt: 100°/s			
Preset	300			
Tour	8 (up to 32 presets per tour)			
Pattern	5			
Scan	5			
Power-off Memory	Yes			
Idle Motion	Preset; Pattern; Tour; Scanning			
PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)			
<b>Intelligence</b>				
IVS (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 Detection	Yes			
SMD	Yes			
<b>Video</b>				
Video Compression	Smart H.265+; H.265; Smart H.264+; H.264B; H.264M; H.264H; MJPEG (Sub Stream 1)			
Streaming Capability	3 Streams			
Resolution	4M (2560 × 1440); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)			
Video Frame Rate	Main stream: 4M/1080p/1.3M/720p (25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 720p (1–25/30 fps)			
Bit Rate Control	CBR; VBR			
Video Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 32 Kbps–8192 Kbps			
Day/Night	Auto (ICR); Color; B/W			
BLC	Yes			
WDR	120 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			
Defog	Electronic			
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			
<b>Audio</b>				
Audio Compression	G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1			
<b>Network</b>				
Network Port	RJ-45 (10/100 Base-T)			
Network Protocol	HTTP; HTTPS; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; IPv6; 802.1x; QoS; FTP; UPnP; ICMP; SNMP; SNMP v1/v2c/v3 (MIB-2); IGMP; ARP; RTCP; RTP; PPPoE; RTMP; TCP			
Interoperability	ONVIF Profile S&G&T; CGI			
Streaming Method	Unicast; Multicast			
User/Host	20 (Total bandwidth 64 M)			
Storage	FTP; Micro SD card (512 GB); NAS			
Browser	IE 7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari			
Management Software	Smart PSS; DSS; IVSS; Configtool; NVR; Smart Player			
Mobile Client	iOS; Android			

**Certification**

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

Alarm Linkage	Capture; preset; tour; pattern; recordings on SD card; alarm digital input; sending email
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

**Power**

Power Supply	12 VDC, 3 A (± 10%) PoE+ (802.3at)
Power Consumption	Basic: 12 W Max.: 21 W (illuminator + PTZ working)

**Environment**

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

**Structure**

Casing	Aluminum alloy ADC12
Product Dimensions	295 mm × Φ160 mm (11.61" × Φ6.30")
Net Weight	2.8 kg (6.17 lb)
Gross Weight	4.3 kg (9.48 lb)

**Ordering Information**

Type	Model	Description
Wizsense 4MP IP PTZ Camera	DH-SD49425XB-HNR-S3	4MP 25x Starlight IR WizSense Network PTZ Camera
	SD49425XB-HNR-S3	4MP 25x Starlight IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	PFA111	Mount Adapter
	DC12V/3A	Power Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount Bracket
	PFA120	Water-proof Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket

**Accessories**

Included:



PFB305W  
Wall Mount Bracket

Optional:



PFA111  
Mount Adapter



DC12V/3A  
Power Adapter



PFA140  
Power Box



PFB300C  
Ceiling Mount Bracket



PFA120  
Water-proof Junction Box



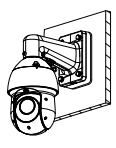
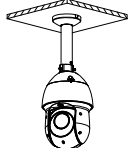
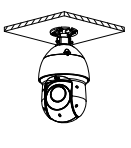
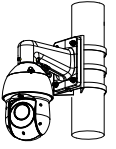
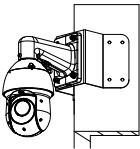
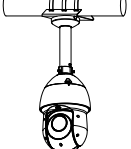
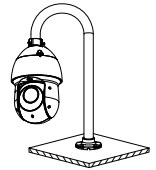
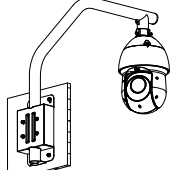
PFA150  
Pole Mount Bracket



PFA151  
Corner Mount Bracket



PFB303S  
Parapet Mount Bracket

Wall Mount PFB305W+PFA120 	Ceiling Mount PFA111+PFB300C 	Ceiling Mount PFA111+PFB301C 
Pole Mount(Vertical) PFB305W+PFA150 	Corner Mount PFB305W+PFA151 	Pole Mount(Horizontal) PFA111+PFB300C+PFA150 
Plane Mount PFB301S-E 	Parapet Mount PFA111+PFB303S 	

**Dimensions (mm[inch])**

