DH-SD49425XB-HNR-S3

4MP 25x Starlight IR WizSense Network PTZ Camera

· 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

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 WizSence 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.

Environment

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.

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

Camera

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)

Lens

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)

PTZ

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)

Intelligence

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

Video

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

Audio

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

Network

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

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
Wizsence 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
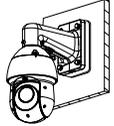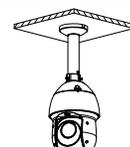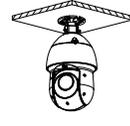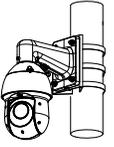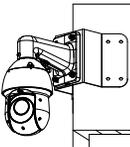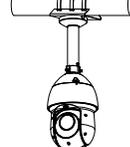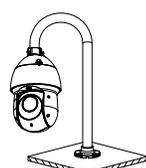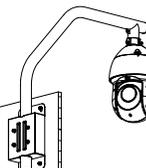
PFA120
Water-proof Junction Box

PFA150
Pole Mount Bracket

PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

Wall Mount	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
Plane Mount	Parapet Mount	
PFB301S—E	PFA111+PFB303S	

Dimensions (mm[inch])

50.0[1.97]

109.3[4.30]

295.4[11.63]

139.5[5.49]

Φ160.0[6.30]