DH-SD49225XA-HNR-S2

2MP 25x Starlight IR WizSense Network PTZ Camera

- 1/2.8" 2Megapixel CMOS
- Powerful 25x optical zoom
- Starlight technology
- Perimeter protection
- PoE+
- IP66
- IR distance up to 100m
- SMD PLUS

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

Dahua AI PTZ network camera adopts advanced CNN deep learning algorithms to support face recognition with high accuracy. This camera possesses wide monitoring range and PFA algorithm that can always present a clear, focused image while zooming, and adopts smart wiper technology that supported by RainSensor.

Functions

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves 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 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Environment

Dahua cameras can 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 IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

Protection

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

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.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	2 MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	256 MB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 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)
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR; Off
Illuminator Number	6 (IR light)

Lens

Focal Length	4.8 mm–120 mm
Max. Aperture	F1.6–F3.5
Field of View	H: 62.8°–2.6°; V: 33.2°–1.7°; D: 67.3°–3.9°
Optical Zoom	25x
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
	1655 m (5429.79 ft)	654 m (2145.67 ft)	331 m (1085.96 ft)	165 m (541.34 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −15° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°–200°/sTilt: 0.1°–120°/s
Preset Speed	Pan: 240°/s; Tilt: 200°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Speed Adjustment	Yes
Power-off Memory	Yes
Idle Motion	Preset; Pattern; Tour; Scan
Protocol	DH-SDPelco-P/D (auto recognition)

General Intelligence

Event Trigger	Motion detection, video tampering, scene changing, network disconnection, IP address conflict, illegal access, and storage anomaly
IVS	Object abandoned; object missing

Artificial Intelligence

Smart Capture	Support human, motor vehicle and non-motor vehicle image capture.
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 PLUS	Yes

Video

Compression	Smart H.265+; H.265; Smart H.264+; H.264B; H.264M; H.264H; MJPEG (Sub Stream)
Streaming Capability	3 streams
Resolution	1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Frame Rate	Main stream: 1080p/1.3 M/720p (1–50/60 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080 p/1.3M/720p/D1/CIF (1–25/30 fps)"
Bit Rate Control	CBR; VBR
Bit Rate	Default resolution of the main stream: 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; 3D
Motion Detection	Yes
Region of Interest (RoI)	Yes
Defog	Electronic
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view
S/N Ratio	≥ 55 dB

Audio

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

Network

Ethernet	RJ-45 (10/100 Base-T)
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 MB)

Storage	Imou Cloud; FTP; Micro SD card (max. 512 GB); NAS
Browser	IE7 and later versions; Chrome; Firefox; Safari
Management Software	Smart PSS; DSS; IVSS; Configtool; NVR; Smart Player; Imou
Mobile Phone	IOS; Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL60950-1+CAN/CSA C22.2, No. 60950-1

Port

Audio Input	1
Audio Output	1
Alarm Input	2 (on-off value input: 0–5 VDC)
Alarm Output	1
Alarm Linkage	Capture; preset; tour; pattern; recording; triggering on-off value output; audio; sending email
Alarm Event	Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; encoder state detection; memory card state detection; memory space detection; power exception detection

Power

Power Supply	12 VDC/3A±10% PoE+ (802.3at)
Power Consumption	Basic: 9W Max.: 23W

Environment

Operating Temperature	−40°C to +70°C (−40°F to +158°F)
Operating Humidity	≤ 95%
Protection	IP66; TVS 6000V lightning proof; surge protection; voltage transient protection

Structure

Casing	Aluminum alloy ADC12
Dimensions	160 mm × Φ295 mm (6.30" × Φ11.61")
Net Weight	3 kg (6.61 lb)
Gross Weight	4.2 kg (9.26 lb)

Ordering Information

Type	Part Number	Description
2MP PTZ Camera	DH-SD49225XA-HNR-S2	2MP 25 Ordinary IR Network PTZ Camera, PAL
	DH-SD49225XAN-HNR-S2	2MP 25 Ordinary IR Network PTZ Camera, NTSC
	SD49225XA-HNR-S2	2MP 25 Ordinary IR Network PTZ Camera, PAL
	SD49225XAN-HNR-S2	2MP 25 Ordinary IR Network PTZ Camera, NTSC
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

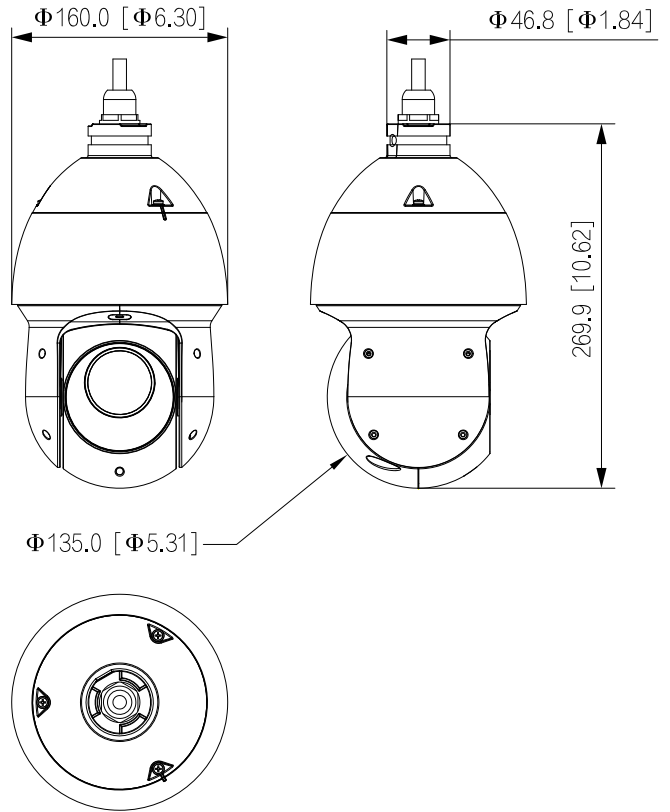PFA120
Water-proof Junction Box

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])

Φ160.0 [Φ6.30]

Φ46.8 [Φ1.84]

269.9 [10.62]

Φ135.0 [Φ5.31]