

DH-SD5A432MB-HNR-K1

4MP 32x Starlight IR WizSense 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.

Series 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

WizTracking

This function allows the PTZ to pan, tilt and zoom to keep moving objects within the field of view. Tracking can be triggered manually or automatically by rules. Leveraging the Xinghan large-scale AI model with its multi posture tracking, human part tracking, and trajectory fitting capabilities, the function effectively resists occlusion and greatly improves tracking accuracy, delivering high quality images with fine details.

- 1/2.8" 4Megapixel CMOS.
- Powerful 32x optical zoom.
- Max. 25/30 fps@4M.
- IR distance up to 150 m.
- WizTracking.
- Perimeter Protection
- Face Detection.
- Acupick.
- SMD 4.0.
- PoE+.
- IP67, IK10.



SMD4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms.

AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

Xinghan Large-Scale AI Models-Vision

Xinghan Large-Scale AI Models-Vision seamlessly expands the storage and operational capacity of algorithmic models through the powerful integration of edge AI model algorithms and NPU computing power. Engineered with a lightweight transformer architecture and enhanced by model distillation and quantization techniques, it optimizes the computing power consumption of ViT operators. This enables the system to collaborate on multiple tasks simultaneously through joint inference between small and large models optimized for edge devices.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	4 MP
Max. Resolution	2560 (H) × 1440 (V)
Electronic Shutter Speed	1/1 s–1/30,000 s
Slow Shutter	Yes
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	150 m (492.13 ft) (IR)
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR
Illuminator Number	4 (IR)

Lens

Focal Length	4.8 mm–154 mm
Max. Aperture	F1.6–F4.0
Field of View	H: 55.81°–2.37° V: 33°–1.4° D: 63.71°–2.71°
Optical Zoom/Speed	32×, 3.5s
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

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	96.0 m (314.96 ft)	38.4 m (125.98 ft)	19.2 m (62.99 ft)	9.6 m (31.50 ft)
	T	3080.0 m (10104.86 ft)	1232.0 m (4041.95 ft)	616.0 m (2020.97 ft)	308.0 m (1010.49 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°–300°/s Tilt: 0.1°–140°/s
Preset Speed, Positioning accuracy	Pan: 400°/s; Tilt: 240°/s, proportional pan control, 0.2°
Preset	300 (Freeze Image during change in presets)
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory, 3D-positioning, Scheduled tasks	Yes
Idle Motion	Preset; Pattern; Tour; Scan

PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)
--------------	---------------------------------------

Intelligence

Video Metadata	Detects motor and non-motor vehicles, faces and human bodies. It also performs tracking, takes snapshots, uploads high-quality face images and optimizes images. It extracts attributes from motor vehicles, detecting up to 10 attributes for them.
IVS (Perimeter Protection)	Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking; sound anomalies
Face Detection	Supports face detection (5 faces at the same time), optimization, tracking, capturing pictures, uploading high-quality face snapshots, and face enhancement; Supports attributes extraction. 6 attributes and 8 expressions; Supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing, optimization, and quality first.
People Counting	Supports tripwire for people counting at entrances and exits, counting the number of people staying in an area and queuing in an area, and displaying and exporting reports based on the day, week and month.
Smart Tracking, AI coding	WizTracking (manual, auto), YES
SMD	SMD 4.0
AcuPick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.
Auto Patrol	It triggers the IVS rule when a target is detected and makes the camera link with the PTZ to rotate to the position of the target and patrol based on its presets.

Video

Video Compression	Smart H.265+; H.264/H.265 (Base, Main, High, Scalable); Smart H.264+; H.264B; H.264H; MJPEG (Sub Stream 1)
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2048 × 1536); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 4M/1080p/960p/720p@ (1–25/30 fps) Sub stream 1: D1/VGA/CIF@ (1–25/30 fps) Sub stream 2: 1080p/960p/720p@ (1–25/30 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H264: 96 Kbps–14848 Kbps H265: 38 Kbps–8960 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, Image parameters	Auto; manual. Saturation, brightness, contrast, sharpness adjustment
Noise Reduction	2D NR; 3D NR
Filtering ambient noise	YES
Motion Detection	Yes

Region of Interest (RoI)	Yes, 8
Image Stabilization	Electronic Image Stabilization (EIS)
Defog (Demist)	Electronic
Digital Zoom	16×
Image Rotation	180°
VR 360° Panoramic	YES
Privacy Masking	Up to 32 polygonal areas. Privacy masking (solid color or mosaic), ROI focus and exposure
S/N Ratio	≥52 dB

Audio

Audio Compression	PCM; G.711(64Kb/s); G.711Mu; G.726(16Kb/s); MP2L2(32-192Kb/s); G.722.1(16Kb/s); G.729; G.723, MP3(8-320Kb/s), AAC-LC(16-64Kb/s) MP2L2,AAC-LC,PCM,MP3 sampling 8,16,32,48kHz
-------------------	---

Network

Network Port	RJ-45 (10/100 Base-T)
Network Protocol	HTTP;HTTPS;TCP/IP;IPv4;RTSP;UDP;SMTP;NTP;DHCP;DNS;DDNS;IPv6;802.1x;SSL;QoS;FTP;UPnP;ICMP;SNMP;IGMP;ARP;RTCP;RTP;PPPoE;RTMP;Bonjour;NFS, complex passwords
Interoperability	CGI;SDK;ONVIF (Profile S & Profile G & Profile T & Profile M)
Streaming Method	Unicast/Multicast
User/Host	32 (total bandwidth: 64 M)
Storage	FTP; Micro SD/SDHC/SDXC card (512 GB); NAS (NFS, SMB/CIFS) automatic restoration after connection recovery
Protection	(Strong) password protection, HTTPS encryption (Basic and Digest), IEEE 802.1X (EAP-TLS, EAP-LEAP, EAP-MD5), watermarking, IP filtering, session timeout, security audit log, TLS 1.2, MAC address authentication
Notification of the monitoring center	YES
Mobile Client	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 channel (LINE IN, bare wire 2-2.4Vpp, 1kΩ)
Audio Output	1 channel (LINE OUT, bare wire, 600Ω)
Alarm Input	2 (on-off value input, 0-5 VDC)
Alarm Output	1 channel
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; memory card state detection; memory space detection; power exception detection
Alarm I/O	2/1
Audio I/O	1/1

Power

Power Supply	24 VDC; 2.5 A (±25%); PoE+ (802.3at)
RESET	YES

Power Consumption	Basic: 13 W Max: 22 W (illuminator + PTZ working + Heater + Fan)
Power Adapter	Included

Environment

Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Operating Humidity	≤95%
Protection	IP67;IK10;TVS 6000 V lightning proof; surge protection; voltage transient protection

Structure

Product Dimensions	332 mm × Φ190 mm (13.07" × Φ7.48")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8 kg (17.64 lb)

Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD5A432MB-HNR-K1	4MP 32x Starlight IR WizSense Network PTZ Camera
	PFB305W	Wall Mount Bracket
	DC24V/2.5A	Power Adapter
	DH-PFB301S-E	Plane Mount Bracket
Accessories	PFA111	Mount Adapter
	DH-PFB300C	Ceiling Mount Bracket
	DH-PFA151	Corner Mount Bracket
	DH-PFA150	Pole Mount Bracket
	DH-PFB303S	Parapet Mount Bracket
	DH-PFA126	Water-proof Junction Box
	PFM900-E	Integrated Mount Tester

Accessories

Included:



PFB305W
Wall Mount Bracket



DC24V/2.5A
Power Adapter

Optional:



DH-PFB301S-E
Plane Mount Bracket



PFA111
Mount Adapter



DH-PFB300C
Ceiling Mount Bracket



DH-PFA151
Corner Mount Bracket



DH-PFA150
Pole Mount Bracket



DH-PFB303S
Parapet Mount Bracket

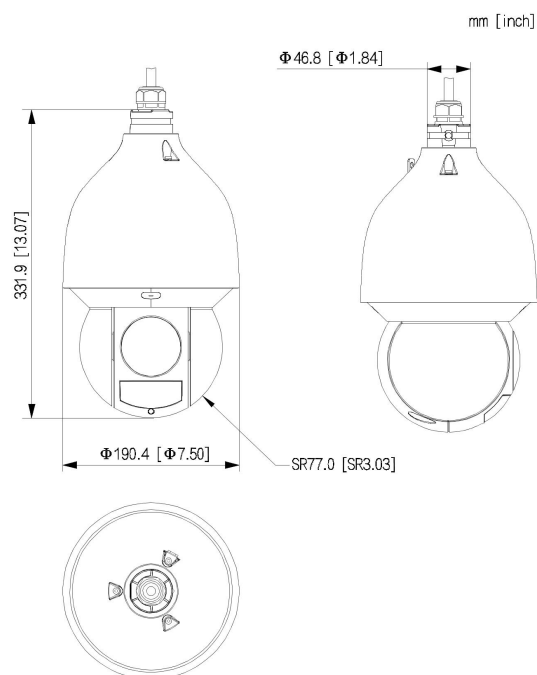


DH-PFA126
Water-proof Junction Box



PFM900-E
Integrated Mount Tester

Dimensions (mm[inch])



Wall Mount	Ceiling Mount 1	Ceiling Mount 2
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	