DH-SD5A445MB-HNR

4MP 45x IR WizSense Network PTZ Camera



- 1/2.8" 4Megapixel CMOS.
- 45× optical zoom.
- Starlight technology.
- Max 25/30 fps@4M.
- IR distance up to 150 m.
- WizTracking.
- Perimeter protection.
- Face detection.
- Xinghan Large-Scale AI Models.
- AcuPick.
- SMD 4.0.
- IP67, IK10



Functions

Video Metadata

With deep learning algorithm, Dahua Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

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.

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.

People Counting

Uses advanced image processing technology to extract depth information from images. The extracted information is then processed by advanced, deep learning algorithms to analyze and detect human bodies, and track targets in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	4 MP
Max. Resolution	2560 (H) × 1440 (V)
ROM	4 GB
RAM	2 GB
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	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR; Off
Illuminator Number	4 (IR)

Lens

Focal Length	3.95 mm–177.75 mm
Max. Aperture	F1.6–F4.95
Field of View	H: 65.7°–1.9°; V: 39.4°–1.1°; D: 73.1°–2.1°
Optical Zoom	45×
Focus Control	Auto; semi-auto; manual
Close Focus Distance	0.1 m–1 m (0.33 ft–3.28 ft)
Iris Control	Auto; manual

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	79.0 m (259.18 ft)	31.6 m (103.67 ft)	15.8 m (51.84 ft)	7.9 m (25.92 ft)
	T	3555.0 m (11663.24 ft)	1422.0 m (4665.30 ft)	711.0 m (2332.65 ft)	355.5 m (1166.32 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°/s–300°/s Tilt: 0.1°/s–200°/s
Preset Speed	Pan: 400°/s; Tilt: 300°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Preset;Pattern;Tour;Scan

Intelligence

Video Metadata	Supports detection of motor vehicles, non-motor vehicles, faces and human bodies, optimization, capturing pictures, and uploading high-quality face snapshots. It extracts attributes from motor vehicles and non-motors, detecting up to 10 attributes for motor vehicles and 8 for non-motor vehicles. It also extracts attributes from human faces and bodies, detecting up to 6 attributes for faces, and 8 for bodies.
IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking. Offers Perimeter Protection Large-Scale AI Models to extend the target detection range and reduce the rate of false alarm. Supports self-learning, it filters out false alarms.
Face Detection	Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot)
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	WizTracking
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.265;Smart H.264+;H.264;H.264B;H.264H;MJPEG(Sub Stream 1)
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2048 × 1536); 3M (2304 × 1296); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576); VGA (640 × 480); CIF (352 × 288)
Video Frame Rate	Main stream: 4M/3M/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	H.264: 96 kbps–14848 kbps H.265: 38 kbps–8960 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 Image Stabilization (EIS)
Defog	Electronic
Digital Zoom	16×
Image Rotation	180°
Privacy Masking	Up to 32 areas can be set, with up to 8 areas in the same view; color block and mosaic selectable.
S/N Ratio	≥ 55 dB

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723

Network

Network Port	1 × 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
Interoperability	CGI;SDK;P2P;ONVIF (Profile S & Profile G & Profile T & Profile M)
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (Up to 512 GB);FTP;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;DMSS
Mobile Client	iOS;Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014 UL: UL60950-1+CAN/CSA 22.2,No.60950-1

Port

Audio Input	1 channel
Audio Output	1 channel
Alarm Input	2 channels in: supports wet contact connection (max load 5 mA 3-5 VDC); supports dry contact connection
Alarm Output	1 channel out: dry contact, max load 1,000 mA 30 VDC/500 mA 50 VAC
Alarm Linkage	Capture; recording; send email; preset; tour; pattern; alarm digital output
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	24 VDC(±25%) , 2.5 A ; PoE+ (802.3at)
Power Consumption	Basic: 10 W Max: 22 W (illuminator on + Heater + Fan)
Power Adapter	Included

Environment

Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤ 95% (RH)
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	8.0 kg (17.64 lb)

Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD5A445MB-HNR	4MP 45x IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	DC24V/2.5A	Power Adapter
	PFA111	Mount Adapter
	DH-PFB300C	Ceiling Mount Bracket
	DH-PFB301S-E	Plane Mount Bracket
	DH-PFA150	Pole Mount Bracket
	DH-PFA151	Corner Mount Bracket
	DH-PFA126	Water-proof Junction Box
	DH-PFB303S	Parapet Mount Bracket
	PFM900-E	Integrated Mount Tester

Accessories

Included:



PFB305W
Wall Mount Bracket



DC24V/2.5A
Power Adapter

Optional:



PFA111
Mount Adapter



DH-PFB300C
Ceiling Mount Bracket



DH-PFB301S-E
Plane Mount Bracket



DH-PFA150
Pole Mount Bracket



DH-PFA151
Corner Mount Bracket



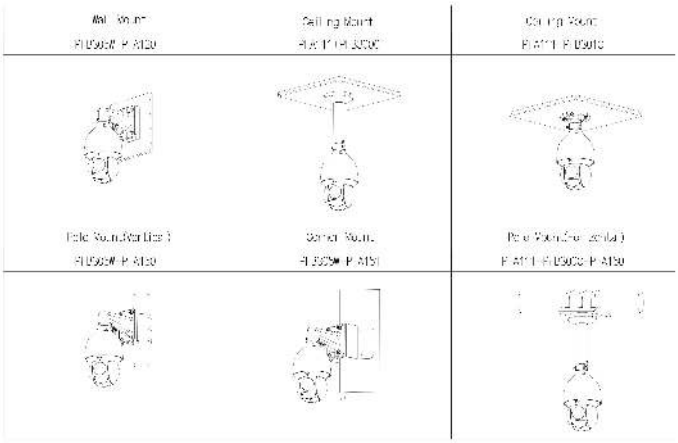
DH-PFA126
Water-proof Junction Box



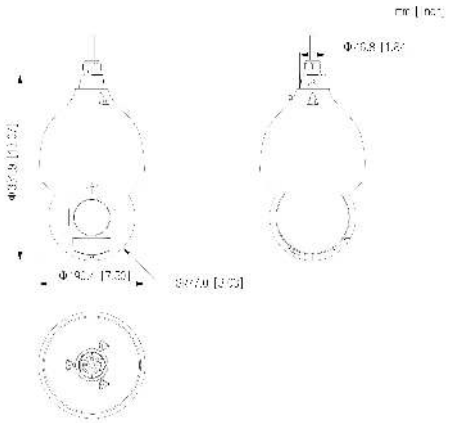
DH-PFB303S
Parapet Mount Bracket



PFM900-E
Integrated Mount Tester



Dimensions (mm[inch])



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