

DH-SD8A250WA-HNF

2MP 50x Starlight IR OIS WizMind AI Network PTZ Camera



Wiz Mind

- 1/2.8" 2Megapixel CMOS
- Powerful 50x optical zoom
- IR distance up to 500 m
- Support face recognition
- Deep-learning-based auto tracking and perimeter protection
- Support metadata
- Support Hi-PoE
- Smart Wiper
- IP67



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for industry verticals.

System Overview

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

Functions

Face Recognition

Once facial features are extracted from captured faces, they are stored in a database where they can be easily searched and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 10,000 facial images, helping the camera achieve real-time face capture and comparison.

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.

Environment

Dahua cameras 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 IP67 Ingress Protection rating make it suitable for demanding outdoor applications.

Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ AI camera: Human face, human body, motor vehicle and non-motor vehicle metadata. Facial information includes gender, age, glasses, masks, beards, etc. Human body information includes hat, top type, top color, bottom type, bottom color, backpacks, etc. Motor vehicle information includes car color and car type, etc. Non-motor vehicle information includes car type, car color, top type, top color, people number etc.

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.

Protection

The camera allows for $\pm 25\%$ input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturers.

Technical Specification

Camera	
Image Sensor	1/2.8" STARVIS™ CMOS
Pixel	2 MP
Max. Resolution	1920 (H) x 1080 (V)
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.05 Lux@F1.8 B/W: 0.005 Lux@F1.8 0 Lux@F1.8 (illuminator on)
Illumination Distance	500 m (1640.42 ft)
Illuminator On/Off Control	Auto; Manual
Illuminator Number	10
Wiper	Smart wiper

Lens				
Focal Length	6.6 mm–330 mm			
Max. Aperture	F1.8–F6.5			
Field of View	H: 41.3°–1.1°; V: 23.6°–0.6°; D: 47.4°–1.3°			
Optical Zoom	50x			
Focus Control	Auto/Manual			
Close Focus Distance	0.1 m–1 m (0.33 ft–3.28 ft)			
Iris Control	Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	4137 m (13572.83 ft)	1655 m (5429.79 ft)	827 m (2713.25 ft)	413 m (1354.99 ft)

PTZ	
Pan/Tilt Range	Pan: 0° – 360° endless; Tilt: -30°–90°, auto flip 180°
Manual Control Speed	Pan: 0.1°–240° /s; Tilt: 0.1°–100° /s
Preset Speed	Pan: 240° /s; Tilt: 120° /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; Tour; Pattern; Scanning
Protocol	DH-SD; Pelco-P/D (auto recognition)

General Intelligence	
Event Trigger	Motion detection; video tampering; scene changing; network disconnection; IP address conflict; illegal access; storage anomaly

IVS	Object abandoned; object missing
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Artificial Intelligence	
Auto Tracking	Yes
Face Recognition	Yes
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.
Video Metadata	Support human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction.

Video	
Compression	Smart H.265+; H.265; Smart H.264+; H.264; MJPEG (Sub Stream 1)
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/1.3M/720P (1 fps–50/60 fps) Sub stream 1: D1/CIF (1 fps–25/30 fps) Sub stream 2: 1080P/1.3M/720P (1 fps–25/30 fps)
Bit Rate Control	Variable; Constant
Bit Rate	H.265/H.264: 32 Kbps–8192 Kbps
Day/Night	Auto (ICR); Color; B/W
BLC	Yes
WDR	120 dB
HLC	Yes
White Balance	Auto; ATW; Indoor; Outdoor; Manual
Gain Control	Auto; Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Optical (OIS)
Defog	Optical
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio	
Compression	G.711a; G.711mu; PCM; G.726; AAC; G722.1; G.729; MPEG2-Layer2

Network	
Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4/IPv6; HTTP; HTTPS; SSL; TCP/IP; UDP; UPnP; ICMP; IGMP; SNMP v1/v2c/v3 (MIB-2); ARP; RTCP; RTSP; RTP; SMTP; NTP; DHCP; DNS; PPPoE; DDNS; FTP; IP Filter; QoS; Bonjour; 802.1x

Interoperability	ONVIF Profile S&G&T; API
Streaming Method	Unicast; Multicast
User/Host	20 (total bandwidth 64 MB)
Storage	NAS (Network Attached Storage), local PC for instant recording; Micro SD card (256 GB)
Browser	IE; Chrome; Firefox; Safari
Management Software	Smart PSS; DSS; DMSS
Mobile Phone	IOS, Android

Certification

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

Analog Output	1 port (BNC, 1.0V[p-p], 75Ω)
RS485	1
Audio I/O	1/1
Alarm I/O	7/2

Power

Power Supply	DC 36V/2.23A (±25%); Hi-PoE
Power Consumption	16W, 38W (heater on, IR on)

Environment

Operating Conditions	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	Less than 95% RH
Protection	IP67

Structure

Casing	Metal
Dimensions	Φ262 mm × 415.6 mm (Φ10.31" × 16.36")
Net Weight	8.5 kg (18.74 lb)
Gross Weight	13.5 kg (29.76 lb)

Ordering Information

Type	Part Number	Description
2MP WizMind PTZ Camera	DH-SD8A240WA-HNF	2MP 40x Starlight IR OIS WizMind Network PTZ Camera, WDR, PAL
	DH-SD8A240WAN-HNF	2MP 40x Starlight IR OIS WizMind Network PTZ Camera, WDR, NTSC
	SD8A240WA-HNF	2MP 40x Starlight IR OIS WizMind Network PTZ Camera, WDR, PAL
	SD8A240WAN-HNF	2MP 40x Starlight IR OIS WizMind Network PTZ Camera, WDR, NTSC

Accessories	PFB306W	Wall Mount Bracket
	DC 36V/2.23A	Power Adapter
	PFA118	Mount Adapter
	PFB710C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFB301S-E	Plane Mount Bracket

Accessories

Included:



PFB306W
Wall Mount Bracket



DC 36V/2.23A
Power Adapter

Optional:



PFA118
Mount Adapter



PFB710C
Ceiling Mount Bracket



PFA150
Pole Mount Bracket



PFB301S-E
Plane Mount Bracket

Wall Mount	Ceiling Mount
PFB306W	PFA118+PFB710C
Pole Mount	Plane Mount
PFB306W+PFA150	PFB301S-E

Dimensions (mm)

