DH-SD8A440PA-HNF-5G

4MP 40x 5G Starlight WizMind Network PTZ Camera

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS,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 verticals.

System Overview

Embedded with an advanced AI chip, this series of cameras provides an all-in-one solution for video surveillance of large areas. Outranking conventional cameras with its extended monitoring range, it automatically tracks targets. It also produces vivid images whether day or night, using infrared technology. It is suitable for a wide variety of scenarios, such as advanced defense areas that require high levels of control. You can also have the camera custom-made with an anti-corrosion structure and IK10.

Functions

Protection (IP67, TVS 8000 V)

IP67, TVS 8000 V lightning proof, surge protection, and voltage transient protection.

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 adjusts to fully capture both the bright and dark areas of a scene, producing superior quality videos.

5G

Equipped with built-in high-performance 5G mobile communication module, the network camera supports 5G network connection and two networking methods: Non-Standalone (NSA) and Standalone (SA). It is backward compatible with 4G connection (The module is different for band compatibility). It can be registered on the platform through wireless connection, and can transmit videos, pictures, intelligent feature information, and alarm events. Through the client, you can remotely monitor and operate in real time.

- 1/1.8" 4Megapixel STARVIS™ CMOS.
- 40× optical zoom.
- Starlight technology.
- Max. 50/60 fps@4M.
- IR distance up to 500 m.
- Auto Tracking 3.0.
- Face recognition.
- IP67.
- 5G.

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%.

IVS

With advanced video algorithm, Dahua IVS technology supports intelligent functions, such as tripwire and intrusion.

Face Recognition

Face attributes are extracted from captured faces, and stored in a database where they can be conveniently searched for 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 face images, allowing the camera to capture and compare face images in real time.

Video Metadata

Metadata is information on the attributes of targets that is extracted during monitoring. It can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ WizMind cameras: Human face, human body, motor vehicle and non-motor vehicle. Face information includes gender, age, glasses, masks, beards, and more. Human body information includes hat, top, top color, bottom, bottom color, bag, and more. Motor vehicle information includes plate color, type, vehicle color, sun visor, ornament, calling, seatbelt, smoking, annual inspection sticker, and more. Non-motor vehicle information includes type, color, top type, top color, people number, and more.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Pixel	4 MP
Max. Resolution	2560 (H) × 1440 (V)
Electronic Shutter Speed	1/1 s–1/30,000 s
ROM	8G
RAM	2G
Scanning System	Progressive
Min. Illumination	Color: 0.005 lux@F1.4 B/W: 0.0005 lux@F1.4 0 lux(IR light on)
Illumination Distance	500 m (1640.42 ft) (IR)
Illuminator On/Off Control	Zoom Prio; Manual
Illuminator Number	10 (IR)
Wiper	Smart wiper

Lens

Focal Length	5.6 mm–223 mm			
Max. Aperture	F1.4–F4.5			
Field of View	H: 61.8°–2.2°; V: 36.3°–1.3°; D: 69.2°–2.4°			
Optical Zoom	40×			
Focus Control	Auto; semi-auto; manual			
Close Focus Distance	0.5 m–2 m (1.64 ft–6.56 ft)			
Iris Control	Auto; Manual			
DORI Distance	Detect	Observe	Recognize	Identify
	3,034.5 m (9,955.71 ft)	1,198.6 m (3,932.48 ft)	606.9 m (1,991.14 ft)	303.4 m (995.41 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: −30° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s–240°/s Tilt: 0.1°/s–75°/s
Preset Speed	Pan: 220°/s; Tilt: 100°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Pattern; Preset; Scan; Tour
PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)

Intelligence

Video Metadata	Motor vehicle, non-motor vehicle, face, and human body detection; tracking; optimization; capturing pictures; uploading high-quality face snapshots Motor vehicle attributes: License plate, plate color, vehicle type, vehicle color, vehicle logo, vehicle model/year, sun visor, seatbelt., smoking, calling, ornament, and annual inspection sticker. Non-motor vehicle attributes: Type, vehicle color, number of people, top type and color, and hat. Human body attributes: Top and bottom type and color, bag, hat, gender, and umbrella. Face attributes: Gender, age, facial expressions, glasses, face mask, and mustache.
IVS (Perimeter Protection)	Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking
Face Recognition	Supports face detection, optimization, tracking, capturing pictures, uploading high-quality face snapshots, and face enhancement; Supports attributes extraction. 6 attributes and 8 expressions: Gender, age, glasses, expressions (angry, sad, hate, scary, surprise, calm, happy and confused), mask, mustache; Supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing, optimization, and quality first Supports up to 5 face databases; registers person one by one or in batches; sets face similarity; compares faces with 10,000 faces.
Auto Tracking	Yes

Video

Video Compression	H.264H; H.264B; Smart H.265+; H.264; MJPEG(Sub Stream); Smart H.264+; H.264M
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 1080p (1920 × 1080); 960p (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 (1–50/60 fps) Sub stream 1: D1/CIF (1–50/60 fps) Sub stream 2: 1080p/1.3M/720p (1–50/60 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.265/H.264: 512 kbps–8192 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
WDR	140 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
Region of Interest (RoI)	Yes
Image Stabilization	Yes
Defog	Optical Defog
Digital Zoom	16×

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; G7221; G726; MP2L2; G729

Network

Network Port	RJ-45 (10/100 Base-T)
4G	Yes
Carrier Network System	4G;5G
Wireless Carrier Frequency Band	5G NR: N1/2/3/5/7/8/25/38/40/41/48/66/77/78/79 LTE-TDD: Band 34/38/39/40/41/42/48 LTE-FDD: Band 1/2/3/4/5/7/19/25/30/32/66 UMTS: Band 1/2/3/4/5/8/19
Network Protocol	TCP; FTP; RTMP; IPv6; IPv4; DNS; RTCP; PPPoE; NTP; RTP; 802.1x; HTTPS; SNMP; DDNS; UPnP; ICMP; UDP; IGMP; HTTP; DHCP; SMTP; SNMPv1/v2c/v3(MIB-2); Qos; RTSP; ARP
Interoperability	ONVIF (ProfileS&G&T); CGI; Dahua SDK
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	FTP; Micro SD card (512 GB); NAS
Browser	IE 9 and later versions Chrome 41 and later versions Firefox 50 and later versions iOS 10 and later versions
Management Software	DMSS; DSS pro
Mobile Client	iOS; Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4/EN55035/ EN61000-3-2/EN61000-3-3/EN62368-1 FCC: Part15 subpartB

Port

Analog Output	1 channel (CVBS output, BNC)
RS-485	1 (baud rate: 1200 bps–9600 bps)
Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT,bare wire)
Alarm Linkage	Capture; preset; tour; pattern; recordings; alarm digital input; send email
Alarm Event	Motion/Tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection
Alarm I/O	7/2
Audio I/O	1/1

Power

Power Supply	36 VDC/3 A±25%
Power Consumption	Basic: 22 W Max.: 53 W (illuminator + PTZ + pulling stream in 5G)

Environment

Operating Temperature	−40 °C to +70 °C (−40 °F to +158 °F)
Operating Humidity	≤95%
Storage Temperature	−40 °C to +70 °C (−40 °F to +158 °F)
Storage Humidity	≤95%
Protection	IP67, TVS 8000 V lightning proof; surge protection; voltage transient protection

Structure

Product Dimensions	415.9 mm × Φ262.0 mm (16.37" × Φ10.32")
Net Weight	8.5 kg (18.74 lb)
Gross Weight	13.3 kg (29.32 lb)

Ordering Information

Type	Model	Description
4M WizMind PTZ Camera	DH-SD8A440PA-HNF-5G	4MP 40x 5G Starlight WizMind Network PTZ Camera
Accessories	DC36V/2.23A	Power Adapter
	PFB306W	Wall Mount Bracket
	PFA118	Mount Adapter
	PFB710C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFB301S-E	Plane Mount Bracket
	PFA120	Junction Box
	PFB301C	Ceiling Mount Bracket
	PFA151	Corner Mount Bracket

Accessories

Included:

DC36V/2.23A
Power Adapter

PFB306W
Wall Mount
Bracket

Optional:

PFA118
Mount Adapter

PFB710C
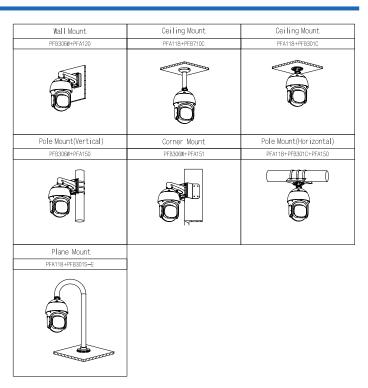Ceiling Mount
Bracket

PFA150
Pole Mount
Bracket

PFB301S-E
Plane Mount Bracket

PFA120
Junction Box

PFB301C
Ceiling Mount
Bracket

PFA151
Corner Mount
Bracket

Wall Mount	Ceiling Mount	Ceiling Mount
PFB306W+PFA120	PFA118+PFB710C	PFA118+PFB301C
Pole Mount(Vertical)	**Corner Mount**	**Pole Mount(Horizontal)**
PFB306W+PFA150	PFB306W+PFA151	PFA118+PFB301C+PFA150
Plane Mount		
PFA118+PFB301S-E		

Dimensions (mm[inch])

Φ47.8 [Φ1.88]
415.9 [16.37]
Φ262.0 [Φ10.31]
SR100.0 [SR3.94]