

DH-SD8A820WA-HNF

4K 20x Polar Light WizMind Network PTZ Camera




- 4/3" 8Megapixel STARVIS™ CMOS
- Powerful 20x optical zoom
- Polar Light technology
- IR distance up to 500m
- 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 verticals.

System Overview

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

Functions

4K Full-color Technology

For challenging low-light applications, Dahua's Full-color Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.0005 lux with 4k video. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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 filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

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 WizMind 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, top color, bottom, bottom color, bag, etc. Motor vehicle information includes plate color, type, vehicle color, sunshield, ornament, calling, seatbelt, smoking, annual inspection sticker, etc. Non-motor vehicle information includes type, 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.

Environmental

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 makes it suitable for demanding outdoor applications.

Protection

The camera allows for ±25% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV 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 manufacturer.

Technical Specification

Camera

Image Sensor	4/3" STARVIS™ CMOS
Pixel	8MP
Max. Resolution	3840 (H) x 2160 (V)
Scanning System	Progressive
Electronic Shutter Speed	1/1s–1/30,000s
Min. Illumination	Color: 0.0005Lux@F1.6; B/W: 0.00005Lux@F1.6; 0Lux@F1.6 (IR on)
Illumination Distance	Distance up to 500 m (1640 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR
Illuminator Number	10
Smart Wiper	Support

Lens

Focal Length	16.0 mm–320 mm			
Max. Aperture	F1.6–F5.0			
Field of View	H: 58.1°–3.2°; V: 34.6°–1.8°; D: 64.9°–3.7°			
Optical Zoom	20X			
Focus Control	Auto/Semi-Auto/Manual			
Iris Control	Auto/Manual			
Close Focus Distance	1m–5m			
DORI Distance	Detect	Observe	Recognize	Identify
	2329 m (7640 ft)	931 m (3054 ft)	465 m (1525 ft)	232 m (761 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
Presets	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Speed Adjustment	Support
Power-off Memory	Support
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/Missing

Artificial Intelligence

Auto Tracking	Support
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Face Recognition	Support
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	H.265+/H.265/H.264+/H.264/MJPEG(Sub Stream)
Streaming Capability	3 Streams
Resolution	4K(3840x2160); 1080P(1920x1080); 1.3M(1280x960); 720P(1280x720); D1(704x576/704x480); CIF(352x288/352x240)
Frame Rate	Main stream:4K(1–25/30fps), 1080P/1.3M/720P (1–25/30fps) Sub stream1: D1/CIF(1–25/30fps) Sub stream2: 1080P/1.3M/720P(1–25/30fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 24Kbps–16384Kbps H.265: 9Kbps–14410Kbps
Day/Night	Auto(ICR) /Color/B/W
BLC	BLC/HLC/WDR (120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto/Manual
Noise Reduction	Ultra DNR (2D/3D)
HLC	Support
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
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
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Network

Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMPv1/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 users
Storage	NAS (Network Attached Storage), Local PC for instant recording, Micro SD card 256GB
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
Port	
Video	1 port(BNC, 1.0V[p-p], 75Ω)
RS-485	1 (Baud rate range: 1200bps~115200bps)
Audio I/O	1/1
Alarm I/O	7/2
Power	
Power Supply	AC24V/3A(±25%), Hi-PoE
Power Consumption	26W, 42W (Heater on, IR on)
Environment	
Operating Conditions	-40°C~70°C (-40°F~+158°F)/Less than 95% RH
Protection	IP67
Structure	
Casing	Metal
Dimensions	Φ262mm×415.6mm (10.31"×16.36")
Net Weight	8.5kg (18.74lb)
Gross Weight	13.5kg (29.76lb)

Ordering Information		
Type	Model	Description
4K WizMind PTZ Camera	DH-SD8A820WA-HNF	4K 20x Polar Light IR WizMind Network PTZ Camera, WDR, PAL
	DH-SD8A820WAN-HNF	4K 20x Polar Light IR WizMind Network PTZ Camera, WDR, NTSC
	SD8A820WA-HNF	4K 20x Polar Light IR WizMind Network PTZ Camera, WDR, PAL
	SD8A820WAN-HNF	4K 20x Polar Light IR WizMind Network PTZ Camera, WDR, NTSC
Accessories	PFB306W	Wall Mount Bracket
	AC24V/3A	Power Adapter
	PFA118	Mount Adapter
	PFB710C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFB301S-E	Plane Mount Bracket

Accessories

Included:



PFB306W
Wall Mount Bracket



AC24V/3A
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)

