DH-SD8A820WA-HNF

4K 20x Polar Light WizMind Network PTZ Camera

WizMind

· 4/3" 8Megapixel STARVIS™ CMOS
· Powerful 20x optical zoom
· Polar Light technology
· 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

| Face Recognition | False Alarm Filter | H.265 | WDR | ICR D/N | IP67 | Hi-PoE |

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 WizMind network camera adopts advanced CNN deep learning algorithms to support face recogniton 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

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 filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves 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.

Environment

Dahua cameras can 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.

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 manufacturers.

Technical Specification

Camera

Image Sensor	4/3" STARVIS™ CMOS
Pixel	8MP
Max. Resolution	3840 (H) x 2160 (V)
Scanning System	Progressive
Electronic Shutter Speed	1/1 s–1/30,000 s
Min. Illumination	Color: 0.0005 Lux@F1.6 B/W: 0.00005 Lux@F1.6 0 Lux@F1.6 (illuminator on)
Illumination Distance	500 m (1640.42 ft)
Illuminator On/Off Control	Zoom Prio; Manual; SmartIR
Illuminator Number	10
Wiper	Smart wiper

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	1 m–5 m (3.28 ft–16.40 ft)

	Detect	Observe	Recognize	Identify
DORI Distance	2329 m (7641.08 ft)	931 m (3054.46 ft)	465 m (1525.59 ft)	232 m (761.15 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

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	4K (3840 x 2160); 1080p (1920 × 1080); 1.3M (1280 x 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Frame Rate	Main stream: 4K(1–25/30 fps), 1080p/1.3M/720p (1–25/30 fps) Sub stream1: D1/CIF (1–25/30 fps) Sub stream2: 1080p/1.3M/720p (1–25/30 fps)
Bit Rate Control	Variable; constant
Bit Rate	H.264: 24 Kbps–16384 Kbps H.265: 9 Kbps–14410 Kbps
Day/Night	Auto(ICR); Color; B/W
BLC	Yes
White Balance	Auto; ATW; Indoor; Outdoor; Manual
Gain Control	Auto; Manual
Noise Reduction	Ultra DNR (2D/3D)
HLC	Yes
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Electronic (EIS)
Defog	Optical
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio

Compression	G.711a; G.711mu; PCM; G.726; AAC; G.722.1; 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 users
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

Port

Analog Output	1 port (BNC, 1.0V[p-p], 75Ω)
RS-485	1 (baud rate range: 1200 bps–115200 bps)
Audio I/O	1/1
Alarm I/O	7/2

Power

Power Supply	DC 36V/2.23A (±25%), Hi-PoE
Power Consumption	26W, 42W (heater on, IR on)

Environment

Operating Temperature	−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 (10.31" × 16.36")
Net Weight	8.5kg (18.74 lb)
Gross Weight	13.5kg (29.76 lb)

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
	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

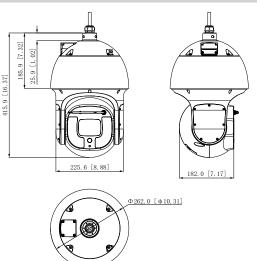DC 36V/2.23A
Power Adapter

Optional:

PFA118
Mount Adapter

PFB710C
Ceiling MountBracket

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 [inch])