alhua
TECHNOLOGY

DH-IPC-HFW5449J-ZYH-IL4-ZQJ

4MP Vari-focal Self-Cleaning Bullet WizMind Network Camera

Functions

AI-ISP

With AI ISP technology, the camera is able to easily adapt to scenes, producing high quality images that reveal the fine details of targets.

Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

Protection (Wide Voltage)

IK10: The enclosure can withstand up to 5 punches from a 5 kg hammer falling from a height of 40 cm (impact energy is 20 J). Wide voltage: The camera has ±30% input voltage tolerance (for some power supplies) and a wide voltage range, making it suitable for a variety of outdoor scenarios.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4MP (2688×1520) @25/30 fps.
- Built-in multi-core light, and the max. illumination distance is 60 m.
- ROI, SVC, SMART H.264+/H.265+, AI H.264/H.265, encoding after filter, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- With deep learning algorithm, it supports:IVS, face detection.
- Alarm: 2 in, 2 out; audio: 1 in, 1 out; RS-485; power output; supports max. 1 TB Micro SD card, built-in dual Mic.
- With Compound Eye illumination technology, the device minimizes light pollution and provides uniform lighting for enhanced night-time image clarity.
- Includes a built-in 2.6 L water tank with a capacity to hold up to 4 years worth of cleaning solution.
- Equipped with double-blade wipers that keep the device clean and clear.
- Monitors water tank levels, triggering alarms and event linkage when the water is low or empty, or when it has been refilled.
- The built-in gradienter provides a visual display of the horizontal gradient, making installation simpler and more precise.
- Supports sound and light alarms, triggering a sound and flashing light when an alarm is triggered.
- 12 VDC/PoE power supply; PoE.
- IP66 protection.

| 4Mp | AI-ISP | Perimeter Protection | WDR |

DH-IPC-HFW5449J-ZYH-IL4-ZQJ

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	4 GB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
S/N Ratio	>56 dB
Illumination Distance	Up to 60 m (196.85 ft) (IR)
Illuminator On/Off Control	Auto;Zoomprio;Manual
Illuminator Number	4 (Multi-core (IR + warm) light)
Angle Adjustment	Pan: −5° to +5° Tilt: −70° to +5°

Lens

Lens Type	Motorized vari-focal
Lens Mount	φ16
Focal Length	2.7 mm–12 mm
Max. Aperture	F1.2
Field of View	H: 93°–48°; V: 50°–27°; D: 110°–56°
Iris Control	Auto

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	70.9 m (232.61 ft)	28.4 m (93.18 ft)	14.2m (46.59 ft)	7.1m (23.29 ft)
	T	128.7m (422.24 ft)	51.5m (168.96 ft)	25.7m (84.32 ft)	12.9m (42.32 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.

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle; loitering detection, people gathering, parking detection.
Face Detection	Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos

Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream)

Smart Codec	Smart H.265+; Smart H.264+
AI Coding	AI H.265; AI H.264
Video Frame Rate	Main stream: 2688 × 1520 (1 fps–25/30 fps) Sub stream: D1@(1–25/30 fps) Third stream: 1080p@(1–25/30 fps) The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.
Stream Capability	3 streams
Resolution	4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 3 kbps–16384 kbps H.265: 3 kbps–16384 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	140 dB
Scene Self-adaptation (SSA)	Yes
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Image Stabilization	Electronic Image Stabilization (EIS)
Smart Illumination	Yes
Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 4M (2688 × 1520) resolution and lower)
Mirror	Yes
Privacy Masking	8 areas
LDC	Yes

Audio

Built-in MIC	Yes, built-in dual Mic
Built-in Speaker	Yes
Audio Compression	G.711a; G.711Mu; PCM; G.726; G.723

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; scene changing; audio detection; voltage detection; external alarm; face detection; security exception; defocus detection

Network

Network Port	RJ-45 (10/100/1000 Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP; P2P; Auto Register
Interoperability	ONVIF (Profile S/Profile G/Profile T/Profile M); CGI
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 1 TB); NAS
Browser	IE: IE 9 and later Chrome: Chrome 102 and later Firefox: Firefox 88 and later
Management Software	SmartPSS Lite; DSS; DMSS
Mobile Client	iOS; Android
Security	Trusted execution; Digest; Security logs; WSSE; Account lockout; Syslog; 802.1x; IP/MAC filtering; HTTPS; Trusted upgrade; Trusted boot; Generation and importing of X.509 certification

Port

RS-485	1 (baud rate range:1200 bps–115200 bps)
Power Output	12 VDC power output, max. current 165 mA, peak current 700 mA
Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)
Alarm Input	2 channels in: wet contact, 5mA 3V–5V DC
Alarm Output	2 channel out: wet contact, 300mA 12V DC

Power

Power Supply	12 VDC/PoE (802.3at)/PoE
Dual Power Backup	When the power adapter and PoE provide power at the same time, disconnect one of them. The device will continue to work, but will not restart.
Power Consumption	Basic: 3.4 W (12 VDC); 4.9 W (PoE) Max. (H.265+ WDR+ Intelligence on+IR on): 16.3 W (12 VDC); 17.2 W (PoE)

Environment

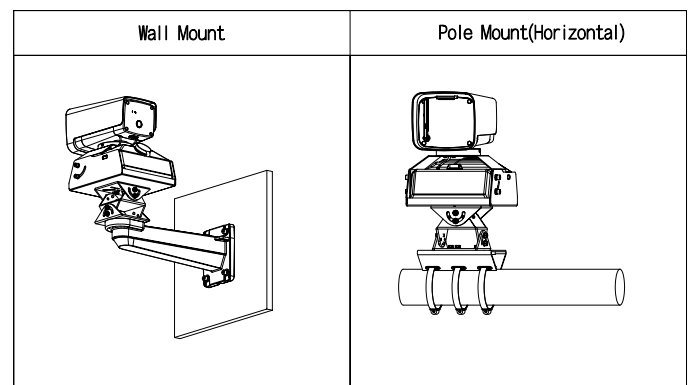|	
Operating Temperature	−30 °C to +60 °C (−22 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Storage Humidity	10%–95% (RH), non-condensing
Protection	IP66

Structure

Casing Material	Metal + plastic
Product Dimensions	274.9 mm × 217.1 mm × 254.8 mm (10.82" × 8.55" × 10.03") (L × W × H)
Net Weight	3.86 kg (8.51 lb)

Ordering Information

Type	Model	Description
4MP Camera	DH-IPC-HFW5449J-ZYH-IL4-ZQJ	4MP IR Vari-focal Bullet WizMind Network Camera
Accessories (Optional)	PFA162-SG	Universal Joint
	PFB606W-SG	Wall Mount Bracket
	PFA150-SG	Pole Mount Bracket
	PFM320D	12 VDC 2 A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card

Accessories

Optional:

PFA162-SG
Universal
Joint

PFB606W-SG
Wall Mount
Bracket

PFA150-SG
Pole mount
Bracket

PFM320D
12 VDC 2 A Power
Adapter

PFM900-E
Integrated
Mount Tester

TF-P100
MicroSD
Memory Card

Wall Mount	Pole Mount(Horizontal)

Dimensions (mm[inch])

274.9 [10.82]

217.1 [8.55]

254.8 [10.03]

48.0 [1.89]

2-M6.0 [∅0.24]