

# DH-IPC-HFW8449J-Z-SC

## 4MP Self-Cleaning Bullet WizMind Network Camera



### WizMind

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.

### Series Overview

Dahua WizMind 8 Series Self-Cleaning Camera includes a large-capacity tank, quick-install wiper and dust-repellent coated glass that keeps the window clear in dusty environments such as tunnels, ranches, and construction sites. It monitors the water level for the tank, simplifying operation and maintenance, and offers intelligent functions such as face detection, video metadata and perimeter detection, making it suitable for a wide variety of scenes.

### Functions

#### Window Self-Cleaning

Provides an efficient cleaning system with a large-capacity tank, quick-install wiper and dust-repellent coated glass. It also supports manual and scheduled cleaning modes and links the wiper to spray water to remove dust. The coated glass reduces adhesion of dust and stains and uses smart PDS heating to defog and maintain clarity. The tank also includes a built-in self-check module that monitors the liquid level, triggering alarms when there is no water or the water level is low. It also provides refill reminders to simplify maintenance.

#### 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.

#### Video Metadata

With deep learning algorithm, Dahua Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

#### 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

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max 4 MP (2688 × 1520) @25/30 fps.
- Built-in multi-core light, the max IR distance is 60 m and the max warm light distance is 40 m.
- With deep learning algorithm, it supports: IVS, video metadata, face detection.
- Alarm: 2 in, 2 out; audio: 1 in, 1 out; RS-485; supports max 1 TB Micro SD card; built-in dual Mic; 1-ch speaker; supports two-way talk.
- 12 VDC/PoE power supply; 12 VDC power output, and max current 165mA, easy for installation.
- IP67 protection.
- The built-in gradienter visualizes the horizontal gradient, simplifying installation.
- Supports window self-cleaning with a built-in 2.6 L large-capacity water tank. Once the tank has been filled, it can keep working for 3 years (cleaning once per week).
- Automatically turns on smart PDS heating for the window based on the ambient temperature to prevent rain, snow, or fog from affecting the image.
- Wraparound sunshield reduces dust and rain on the window and minimizes stray light outside the field of view that might affect the image.
- The built-in electrode probe detects the water amount in the tank, simplifying maintenance.
- \* The cleaning liquid is not supplied. We recommend you use antifreeze windshield water fluid which can withstand  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) environment.



intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

#### Protection (IP67, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes. Wide voltage: The camera allows  $\pm 30\%$  (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

### 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
Min. Illumination	0.0005 lux@F1.2 (Color, 30 IRE) 0.0002 lux@F1.2 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 60 m (196.85 ft) (IR) Up to 40 m (131.23 ft) (Warm light)
Illuminator On/Off Control	Auto;Manual;Zoomprio
Illuminator Number	4 (Multi-core (IR + warm) light)
Wiper	Wiper
Angle Adjustment	Pan: –5° to 5° Tilt: –70° to 5°
Gradienter	The horizontal gradient is visualized, simplifying installation

#### Lens

Lens Type	Motorized vari-focal
Lens Mount	Φ16
Focal Length	2.7 mm–12 mm
Max. Aperture	F1.2
Field of View	H: 92.6°–48°; V: 50°–27°; D: 109.5°–56°
Iris Control	Auto
Iris Control Type	DC-Iris
Close Focus Distance	0.16 m (0.52 ft)

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

#### Smart Event

IVS	Abandoned object; missing object
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#### Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the 3 functions support the classification and accurate detection of vehicle and
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IVS (Perimeter Protection)	human), loitering detection, people gathering, parking detection
Face Detection	Face detection; 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
Video Metadata	Motor vehicle, non-motor vehicle, face, and human body detection; snapshot; snapshot optimization; optimal face snapshot upload Extracts 6 attributes for motor vehicle and 6 attributes for non-motor vehicle Extracts 6 attributes for face and 8 attributes for human body
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 sub stream)
AI Coding	AI H.265; AI H.264 *Includes smart codec technology, Smart H.265+ and Smart H.264+
Video Frame Rate	Main stream: 2688 × 1520@(1–25/30 fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) Third stream: 1920 × 1080@(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.
Streaming Capability	3 streams
Resolution	4M (2688 × 1520/2560 × 1440); 3M (2048 × 1536/2304 × 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	VBR;CBR;ABR
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/Manual
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
Smart Dual Light	Yes

Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 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, built-in speaker
Audio Compression	PCM; G.711a; G.711Mu; 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; sound intensity change; audio detection; voltage detection; external alarm; defocus detection; face detection; video metadata; no water; low water level; full water supply; security exception
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### Network

Network Port	RJ-45 (10/100 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 Registration
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	Chrome 102.0 and later IE11.0 and later Firefox 132.0 and later Safari 12.0 and later Edge 107.0 and later
Management Software	SmartPSS Lite; DSS; DMSS; DoLynk Care
Mobile Client	iOS; Android
Security	Video encryption; Firmware encryption; Configuration encryption; Digest; WSSE; Account lockout; Security logs; IP/MAC filtering; Generation and importing of X.509 certification; syslog; HTTPS; 802.1x; Trusted boot; Trusted execution; Trusted upgrade; Session security; Security warning; SSL/TLS 1.2; AES 256

### Function

Defog (Glass Heating)	Yes
Light Warning	Warm light warning Flash/Solid on duration: 5 s–30 s Flash frequency: high, medium, low
Sound Warning	Offers 22 sound alarms and supports importing custom sound alarms Sound: 0–100 Play times can be set from 1 to 10

Water Amount Detection	Detects the water amount in the tank and supports event report and linkage, including no water (supports video overlay), low water level (adjustable threshold of 1 to 50%), and full water supply
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### Certification

Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU
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### Port

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

### Power

Power Supply	12 VDC (±30%); PoE+ (802.3at)
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.: 16.3 W (12 VDC); 17.2 W (PoE) (Illuminator + speaker + intelligence + window heating + wiper)

### Environment

Operating Temperature	–30 °C to +60 °C (–22 °F to +140 °F)
Operating Humidity	≤ 95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	≤ 95% (RH), non-condensing
Protection	IP67
Anti-corrosion Level	Basic Protection *The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection.

### Structure

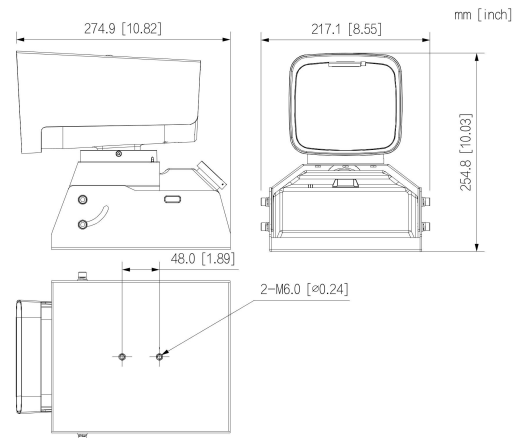
Casing Material	Metal + plastic
Product Dimensions	274.9 mm × 217.1 mm × 254.8 mm (10.82" × 8.55" × 10.03") (L × W × H)
Net Weight	3.91 kg (8.62 lb)
Gross Weight	5.03 kg (11.09 lb)
Water Tank	Yes, 2.6 L

### Ordering Information

Type	Model	Description
IP CAMERA	DH-IPC-HFW8449J-Z-SC	4MP Self-Cleaning Bullet WizMind Network Camera

Type	Model	Description
Accessories (Optional)	DH-PFA150-SG	Pole Mount Bracket
	DH-PFA162-SG	Universal Joint
	DH-PFB606W-SG	Wall Mount Bracket
	DH-PFM320D-EN	DC12V2A power adapter
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/1TB	MicroSD Card

**Dimensions (mm[inch])**



**Accessories**

Optional:



DH-PFA150-SG  
Pole Mount Bracket



DH-PFA162-SG  
Universal Joint



DH-PFB606W-SG  
Wall Mount Bracket



DH-PFM320D-EN  
DC12V2A power adapter



PFM900-E  
Integrated Mount Tester



DHI-TF-P100/1TB  
MicroSD Card

