

# DH-IPC-HDBW3449F-AS-IL

4MP Smart Dual Light Fixed-focal Dome WizSense Network Camera



Xinghan 4MP WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## Series Overview

With advanced deep learning algorithm, Dahua WizSense 3 Series network camera supports intelligent functions, such as perimeter protection and smart motion detection. With starlight technology, this series camera provides a better image effect in the condition of low illuminance.

## Functions

### Xinghan Large-Scale AI Models-Vision

Xinghan Large-Scale AI Models-Vision seamlessly expands the storage and operational capacity of algorithmic models through the powerful integration of edge AI model algorithms and NPU computing power. Engineered with a lightweight transformer architecture and enhanced by model distillation and quantization techniques, it optimizes the computing power consumption of ViT operators. This enables the system to collaborate on multiple tasks simultaneously through joint inference between small and large models optimized for edge devices.

### AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

### 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.

- 4-MP 1/2.9" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in multi-core light, the max. IR distance is 30 m and the max. warm light distance is 30 m.
- ROI, SMART H.264+/H.265+, AI H.264/H.265, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two function support the classification and accurate detection of vehicle and human), stay detection, loitering detection, face detection (full image).
- Abnormality detection: Motion detection, video tampering, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; supports max. 512 G Micro SD card; built-in Mic.
- 12 VDC/PoE power supply.
- IP67, IK10 protection.
- Supports SMD 4.0, AI SSA.
- SMD area can be set in warm light areas that support triggering alarms.



### Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

### Protection (IP67, IK10, 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.

IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).

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               | 1/2.9" CMOS                                                                                                                                                                                                                                  |
| Max. Resolution            | 2688 (H) × 1520 (V)                                                                                                                                                                                                                          |
| ROM                        | 256 MB                                                                                                                                                                                                                                       |
| RAM                        | 1 GB                                                                                                                                                                                                                                         |
| Scanning System            | Progressive                                                                                                                                                                                                                                  |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s                                                                                                                                                                                                                |
| Min. Illumination          | 0.005 lux@F1.6 (Color, 30 IRE)<br>0.0005 lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on)                                                                                                                                                    |
| S/N Ratio                  | >56 dB                                                                                                                                                                                                                                       |
| Illumination Distance      | 2.1 mm:<br>Up to 20 m (65.62 ft) (IR);<br>Up to 20 m (65.62 ft) (Warm light)<br>2.8 mm:<br>Up to 30 m (98.43 ft) (IR);<br>Up to 30 m (98.43 ft) (Warm light)<br>3.6 mm:<br>Up to 30 m (98.43 ft) (IR);<br>Up to 30 m (98.43 ft) (Warm light) |
| Illuminator On/Off Control | Auto/Manual                                                                                                                                                                                                                                  |
| Illuminator Number         | 4 (Multi-core (IR + warm) light)                                                                                                                                                                                                             |
| Angle Adjustment           | Pan: –30° to 30°<br>Tilt: 0° to 80°<br>Rotation: 0° to 360°                                                                                                                                                                                  |

### Lens

|                      |                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------|
| Lens Type            | Fixed-focal                                                                                                              |
| Lens Mount           | M12                                                                                                                      |
| Focal Length         | 2.1 mm; 2.8 mm; 3.6 mm                                                                                                   |
| Max. Aperture        | F1.6                                                                                                                     |
| Field of View        | 2.1 mm: H: 129.8°; V: 69.8°; D: 154.6°<br>2.8 mm: H: 100.7°; V: 56.3°; D: 117.4°<br>3.6 mm: H: 83.1°; V: 44.8°; D: 98.8° |
| Iris Control         | Fixed                                                                                                                    |
| Close Focus Distance | 2.1 mm: 0.8 m (2.62 ft)<br>2.8 mm: 1.0 m (3.28 ft)<br>3.6 mm: 1.5 m (4.92 ft)                                            |

|               | Lens                                                                                                                                                                                                                                            | Detect                 | Observe                | Recognize             | Identify             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|-----------------------|----------------------|
| DORI Distance | 2.1 mm                                                                                                                                                                                                                                          | 50.6 m<br>( 166.01 ft) | 20.2 m<br>( 66.27 ft)  | 10.1 m<br>( 33.14 ft) | 5.1 m<br>( 16.73 ft) |
|               | 2.8 mm                                                                                                                                                                                                                                          | 61.6 m<br>( 202.10 ft) | 24.6 m<br>( 80.71 ft)  | 12.3 m<br>( 40.35 ft) | 6.2 m<br>( 20.34 ft) |
|               | 3.6 mm                                                                                                                                                                                                                                          | 78.0 m<br>( 255.91 ft) | 31.2 m<br>( 102.36 ft) | 15.6 m<br>( 51.18 ft) | 7.8 m<br>( 25.59 ft) |
|               | *DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the                                                                                                                 |                        |                        |                       |                      |
| DORI Distance | 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 (the two functions support the classification and accurate detection of vehicle and human), loitering detection, and stay detection                                                                                                                        |
| SMD                         | SMD 4.0                                                                                                                                                                                                                                                                        |
| AcuPick                     | Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.                                                                           |
| AI SSA                      | Adopt deep learning algorithms to adjust the parameters of the image to suit the conditions.                                                                                                                                                                                   |
| Face Detection (Full Image) | Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face exposure; face snapshot set as face or one-inch photo; 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

|                             |                                                                                                                                                                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AI Coding                   | AI H.264/H.265;<br>*includes SmartCodec Technology , Smart H.264+ / H.265+                                                                                                                                                                                                  |
| Video Frame Rate            | Main stream: 2688 × 1520@(1–25/30 fps)<br>Sub stream: 1920 × 1080@(1–25/30 fps)<br>Third stream: 1920 × 1080@(1–25/30 fps)<br>*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 (2304 × 1296); 1080p (1920 × 1080); 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;<br>H.265: 3 kbps–16384 kbps                                                                                                                                                                                                                       |
| Day/Night                   | Auto(ICR)/Color/B/W                                                                                                                                                                                                                                                         |
| BLC                         | Yes                                                                                                                                                                                                                                                                         |
| HLC                         | Yes                                                                                                                                                                                                                                                                         |
| WDR                         | 120 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)                                                                                                                                                                                                                                                               |

|                    |                                                                           |
|--------------------|---------------------------------------------------------------------------|
| 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 Mic                  |
| 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; scene changing; audio detection; voltage detection; face detection; loitering detection; stay detection; people detection; motor vehicle detection; SMD; security error |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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                                                                                                                                 |
| Interoperability    | ONVIF (Profile S & Profile G & Profile T & Profile M); CGI                                                                                                                                                                                                                                    |
| User/Host           | 20 (Total bandwidth: 64 M)                                                                                                                                                                                                                                                                    |
| Storage             | FTP; SFTP; Micro SD card (support max. 512 GB); NAS                                                                                                                                                                                                                                           |
| Browser             | IE: IE11;<br>Chrome;<br>Firefox                                                                                                                                                                                                                                                               |
| Management Software | Smart PSS 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 |

## Certification

|                |                                                                                  |
|----------------|----------------------------------------------------------------------------------|
| Certifications | CE-LVD: EN62368-1;<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU |
|----------------|----------------------------------------------------------------------------------|

## Port

|              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Audio Input  | 1 channel (RCA port)                                                                                   |
| Audio Output | 1 channel (RCA port)                                                                                   |
| Alarm Input  | 1 channel in: supports wet contact connection (max load 5 mA 3–5 VDC); supports dry contact connection |
| Alarm Output | 1 channel out: wet contact, max load 300 mA 12 VDC                                                     |

## Power

|                   |                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------|
| Power Supply      | 12 VDC (±30%); PoE (802.3af)                                                                                         |
| Power Consumption | Basic: 3.3 W (12VDC); 8.3 W (PoE);<br>Max.: 4.2 W (12 VDC); 9.2 W (PoE) (H.265 + WDR + warm light + intelligence on) |

## Environment

|                       |                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | –40 °C to +60 °C (–40 °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; IK10                                                                                                                                                   |
| Anti-corrosion Level  | Basic Protection<br>*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                                |
| Product Dimensions | 64.8 mm × Φ111.0 mm (2.55" × Φ4.37") |
| Net Weight         | 423 g (0.93 lb)                      |
| Gross Weight       | 590 g (1.30 lb)                      |

## Ordering Information

| Type                   | Model                  | Description                                                   |
|------------------------|------------------------|---------------------------------------------------------------|
| IP CAMERA              | DH-IPC-HDBW3449F-AS-IL | 4MP Smart Dual Light Fixed-focal Dome WizSense Network Camera |
|                        | DH-PFA109              | Mount Adapter                                                 |
|                        | DH-PFB220C             | Ceiling Mount Bracket                                         |
| Accessories (Optional) | DH-PFB305W             | Wall Mount Bracket                                            |
|                        | DH-PFA151              | Corner Mount Bracket                                          |
|                        | DH-PFA150              | Pole Mount Bracket                                            |
|                        | DH-PFB2203W            | Wall Mount Bracket                                            |
|                        | DH-PFA152-E            | Pole Mount Bracket                                            |
|                        | DH-PFA136              | Junction Box                                                  |
|                        | PFM900-E               | Integrated Mount Tester                                       |

## Accessories

Optional:



DH-PFA109  
Mount Adapter



DH-PFB220C  
Ceiling Mount Bracket



DH-PFB305W  
Wall Mount Bracket

Optional:



DH-PFA151  
Corner Mount Bracket



DH-PFA150  
Pole Mount Bracket



DH-PFB2203W  
Wall Mount Bracket



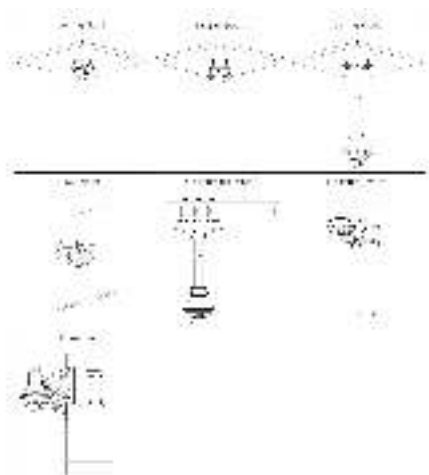
DH-PFA152-E  
Pole Mount Bracket



DH-PFA136  
Junction Box



PFM900-E  
Integrated Mount Tester



## Dimensions (mm[inch])

