

# DH-IPC-HDW4439T-S-IL

4MP Smart Dual Light Fixed-focal Eyeball 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

Powered by its advanced deep learning algorithms, Dahua WizMind 4 Series cameras are ahead of their time advancing functions such as perimeter protection and smart motion detection. With its Starlight sensors and large aperture lenses, cameras in this series deliver excellent image quality even in environments with low illuminance. This series is IP67-rated and IK10-rated (depending on the model) giving you the confidence and precision you are looking for in a camera.

## Functions

### 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.

### SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

- 4-MP 1/2.9" CMOS image sensor, low illuminance, and high definition image.
- Outputs max 2560 × 1440 (2560 × 1440)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED and warm light, the max IR distance is 50 m and the max warm light distance is 50 m.
- ROI, AI H.264/AI H.265(Super AI Coding), flexible coding, applicable to various bandwidth and storage environments.
- Abnormality detection: Motion detection, video tampering, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, invalid access, and voltage detection.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human) .
- Max 512 GB Micro SD card; built-in Mic.
- 12 VDC/PoE power supply, easy for installation.
- IP67 protection.
- SMD Plus.



### 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 (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.

### Super AI Coding

With advanced AI object detection and scene recognition technology, Super AI Coding integrates ROI, BAE, and ABR to achieve higher

encoding efficiency than H.265 and H.264 while effectively reducing storage and transmission costs without compromising video quality.

## 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.

## Technical Specification

### Camera

|                            |                                                                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | 1/2.9" CMOS                                                                                                                                                                                                                                    |
| Max. Resolution            | 2560 (H) × 1440 (V)                                                                                                                                                                                                                            |
| Scanning System            | Progressive                                                                                                                                                                                                                                    |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s                                                                                                                                                                                                                  |
| Min. Illumination          | 0.006 lux@F1.6 (Color, 30 IRE)<br>0.0006 lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on)                                                                                                                                                      |
| S/N Ratio                  | >56 dB                                                                                                                                                                                                                                         |
| Illumination Distance      | 2.8 mm: Up to 30 m (98.43 ft) (IR LED);<br>Up to 20 m (65.62 ft) (Warm light)<br>3.6 mm: Up to 30 m (98.43 ft) (IR LED);<br>Up to 30 m (98.43 ft) (Warm light)<br>6 mm: Up to 50 m (164.04 ft) (IR LED) Up to 50 m<br>(164.04 ft) (Warm light) |
| Illuminator On/Off Control | Auto; Manual                                                                                                                                                                                                                                   |
| Illuminator Number         | 1 (IR LED); 1 (Warm light)                                                                                                                                                                                                                     |
| Angle Adjustment           | Pan: 0° to 360°<br>Tilt: 0° to 78°<br>Rotation: 0° to 360°                                                                                                                                                                                     |

### Lens

|                      |                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------|
| Lens Type            | Fixed-focal                                                                                        |
| Lens Mount           | M12                                                                                                |
| Focal Length         | 2.8 mm; 3.6 mm; 6 mm                                                                               |
| Max. Aperture        | F1.6                                                                                               |
| Field of View        | 2.8 mm: H: 100°; V: 56°; D: 117°<br>3.6 mm: H: 83°; V: 44°; D: 98°<br>6 mm: H: 50°; V: 27°; D: 58° |
| Iris Control         | Fixed                                                                                              |
| Close Focus Distance | 2.8 mm: 1.0 m (3.28 ft)<br>3.6 mm: 1.5 m (4.92 ft)<br>6 mm: 3.2 m (10.50 ft)                       |

| DORI Distance | Lens   | Detect                  | Observe                | Recognize             | Identify              |
|---------------|--------|-------------------------|------------------------|-----------------------|-----------------------|
|               | 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)  |
|               | 6 mm   | 122.2 m<br>( 400.92 ft) | 48.9 m<br>( 160.43 ft) | 24.4 m<br>( 80.05 ft) | 12.2 m<br>( 40.03 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

|               |                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------|
| DORI Distance | 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) |
| SMD                        | SMD Plus                                                                                                       |

## Video

|                          |                                                                                                                                                                                                                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Compression        | H.265; H.264; H.264H; H.264B; MJPEG (Only supported by sub stream)                                                                                                                                                                                                                               |
| AI Coding                | Super AI Coding (H.265); Super AI Coding (H.264)<br>*Includes smart codec technology, Smart H.265+ and Smart H.264+                                                                                                                                                                              |
| Video Frame Rate         | Main stream: 2560 × 1440@(1–25/30 fps)<br>Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps)<br>Third stream: 352 × 288@1 fps/352 × 240@1 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 (2560 × 1440); 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         | VBR; CBR                                                                                                                                                                                                                                                                                         |
| Video Bit Rate           | H.264: 32 kbps–6144 kbps;<br>H.265: 12 kbps–6144 kbps                                                                                                                                                                                                                                            |
| Day/Night                | Auto(ICR)/Color/B/W                                                                                                                                                                                                                                                                              |
| BLC                      | Yes                                                                                                                                                                                                                                                                                              |
| HLC                      | Yes                                                                                                                                                                                                                                                                                              |
| WDR                      | 120 dB                                                                                                                                                                                                                                                                                           |
| White Balance            | Auto; Natural; Street Lamp; Outdoor; Manual; Regional Custom                                                                                                                                                                                                                                     |
| Gain Control             | Manual; Auto                                                                                                                                                                                                                                                                                     |
| 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                                                                                                                                                                                                                                                                                              |
| Image Rotation           | 0°/90°/180°/270° (supports 90°/270° with 2560 × 1440 resolution and lower)                                                                                                                                                                                                                       |
| Mirror                   | Yes                                                                                                                                                                                                                                                                                              |
| Privacy Masking          | 4 areas                                                                                                                                                                                                                                                                                          |
| LDC                      | Yes                                                                                                                                                                                                                                                                                              |

## Audio

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

## Alarm

|             |                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; audio detection; voltage detection; SMD; security exception |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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; NTP; Multicast; ICMP; IGMP; NFS; P2P; Auto Registration                                                                                                  |
| Interoperability    | ONVIF (Profile S & Profile G & Profile T); CGI                                                                                                                                                                                                     |
| User/Host           | 6 (Total bandwidth: 36 M)                                                                                                                                                                                                                          |
| Storage             | FTP; SFTP; Micro SD card (support max. 512 GB)                                                                                                                                                                                                     |
| Browser             | Chrome; Firefox                                                                                                                                                                                                                                    |
| Management Software | Smart PSS Lite; DSS; DMSS; DoLynk Care                                                                                                                                                                                                             |
| Mobile Client       | iOS; Android                                                                                                                                                                                                                                       |
| Security            | 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 |

## Certification

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

## Power

|                   |                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply      | 12 VDC (±30%); PoE (802.3af)                                                                                                                      |
| 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: 1.7 W (12 VDC); 2.4 W (PoE);<br>Max.: 4.2 W (12 VDC); 5.4 W (PoE) (H.265 + max resolution + max stream + WDR + warm light intensity + IVS) |

## 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                                                                                                                                                         |
| 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    | Inner core: Metal; Cover: Plastic     |
| Product Dimensions | 100.9 mm × Φ109.9 mm (3.97" × Φ4.33") |
| Net Weight         | 0.37 kg (0.81 lb)                     |
| Gross Weight       | 0.57 kg (1.26 lb)                     |

## Ordering Information

| Type                   | Model                | Description                                                     |
|------------------------|----------------------|-----------------------------------------------------------------|
| IP CAMERA              | DH-IPC-HDW4439T-S-IL | 4MP Smart Dual Light Fixed-focal Eyeball WizMind Network Camera |
|                        | DH-PFB220C           | Ceiling Mount Bracket                                           |
| Accessories (Optional) | DH-PFA109            | Mount Adapter                                                   |
|                        | 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-PFA13G            | Junction Box                                                    |
|                        | DH-PFM320-010EN      | DC12V 1A Power Adapter                                          |
|                        | DH-PFM325D-1210EN    | DC12V 1A Power Adapter                                          |
|                        | DH-PFM325D-1215EN    | DC12V 1.5A Power Adapter                                        |
|                        | DH-PFM320-020EN      | DC12V 2A Power Adapter                                          |
|                        | DH-PFM320D-EN        | DC12V 2A Power Adapter                                          |
|                        | PFM900-E             | Integrated Mount Tester                                         |
|                        | DHI-TF-P100/512GB    | MicroSD Card                                                    |

## Accessories

Optional:



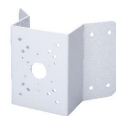
DH-PFB220C  
Ceiling Mount Bracket



DH-PFA109  
Mount Adapter



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-PFA13G  
Junction Box



DH-PFM320-010EN  
DC12V 1A Power Adapter

Optional:



DH-PFM325D-1210EN  
DC12V 1A Power Adapter



DH-PFM325D-1215EN  
DC12V 1.5A Power  
Adapter



DH-PFM320-020EN  
DC12V 2A Power Adapter



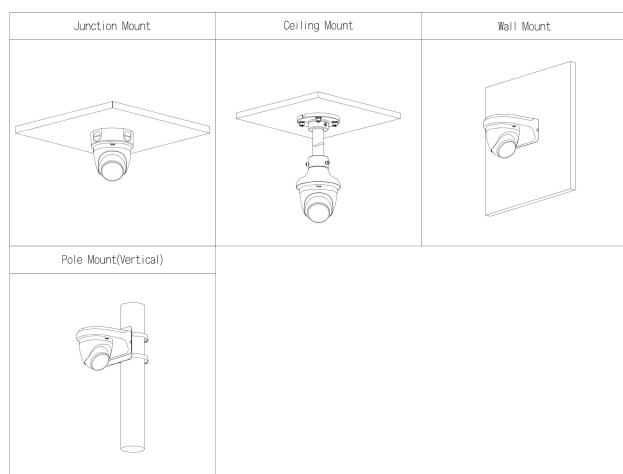
DH-PFM320D-EN  
DC12V 2A Power Adapter



PFM900-E  
Integrated Mount Tester



DHI-TF-P100/512GB  
MicroSD Card



## Dimensions (mm[inch])

