

# DH-IPC-HFW8841X-E3-LB

## 8MP WizMind Triple-Lens Network Camera




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 verticals.

### Series Overview

Equipped with advanced AI chip and advanced deep learning algorithm, Dahua WizMind Triple-Lens series network camera supports various intelligent functions, such as stereo analysis, face recognition and IVS, which provides better intelligent application solutions based on scenes.

### Functions

#### People No. Exception Detection

With deep learning algorithm, the network camera can recognize the target accurately, and detect people number changes in the detection area, and generate alarm. Under certain conditions, the camera can magnify the standing target and track it.

#### Fake Body Filtering

Equipped with patent technology, the camera can filter the fake bodies from projectors or monitors, which improves users' satisfaction.

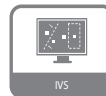
#### Walking Detection

With deep learning algorithm, the network camera can detect walking actions. The alarm will be triggered when the camera detects people walking in the detection area, and the sensitivity can be set.

#### Running Detection

With deep learning algorithm, the network camera can detect the target and the speed. The alarm will be triggered when the camera detects people running in the detection area and the speed exceeds the threshold, and the sensitivity can be set.

- 8MP 1/1.8" CMOS and 2MP 1/2.8" CMOS image sensors, low luminance, high definition image.
- Outputs max. 8MP (3840 × 2160@30 fps) .
- H.265 codec, high compression ratio, and ultra-low bit rate.
- Built-in IR light, and the max. illumination distance is 35 m.
- ROI, SMART H.264 +/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Three intelligent resources switchable: IVS, face recognition, and stereo analysis.
- Tripwire, intrusion, abandoned object, missing object, loitering detection, and people gathering.
- Stereo analysis: People number exception detection, running detection, walking detection, back detection, blackboard writing detection, fall detection, and activation analysis.
- Alarm: 3 in, 2 out; audio: 1 in, 1 out; RS-485; BNC; max. 256 G Micro SD card; built-in MIC.
- Supports HDCVI output, and outputs detail and panoramic image, and people number exception alarm.
- 12V DC/PoE power supply, 12V power output and max. current of 0.165A, facilitate installation.
- IP67 protection.



#### Blackboard Writing Detection

With deep learning algorithm, the network camera can detect blackboard writing actions. The alarm will be triggered when the camera detects person keeping the writing status in front the blackboard for a period. The blackboard-writing can be magnified through the sub stream.

#### Back Detection

With deep learning algorithm, the network camera can do back detection. The alarm will be triggered when the camera detects person with his back to the camera.

#### Activation Analysis

With Activation Analysis function enabled, the camera can record the target positions, and then generates the report, which can be used to count and analyze the activity range of the class.

#### Protection (IP67)

The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can works normal after soaking in 1 m deep water for 30 minutes.

**Cyber Security**

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from comprising the device.

**Technical Specification**

**Camera**

|                            |                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | Channel 1: 1/1.8" CMOS<br>Channel 2: 1/2.8" CMOS                                                                                                                                                                  |
| Max. Resolution            | Channel 1: 3840 (H) × 2160 (V)<br>Channel 2: 1920 (H) × 1080 (V)                                                                                                                                                  |
| ROM                        | 4 GB                                                                                                                                                                                                              |
| RAM                        | 4 GB                                                                                                                                                                                                              |
| Scanning System            | Progressive                                                                                                                                                                                                       |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s                                                                                                                                                                                     |
| Min. Illumination          | Channel 1:<br>0.0015 Lux@F1.6 (Color, 30 IRE)<br>0.0002 Lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on)<br>Channel 2:<br>0.002 Lux@F1.6 (Color,30 IRE)<br>0.0002 Lux@F1.6 (B/W,30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio                  | > 56 dB                                                                                                                                                                                                           |
| Illumination Distance      | 2.8 mm: 30 m (98.4 ft) (IR LED)<br>6 mm: 35 m (114.8 ft) (IR LED)                                                                                                                                                 |
| Illuminator On/Off Control | Auto/Manual                                                                                                                                                                                                       |
| Illuminator Number         | 2 (IR LED)                                                                                                                                                                                                        |
| Pan/Tilt/Rotation Range    | Pan: 0°–360°<br>Tilt: 0°–90°                                                                                                                                                                                      |

**Lens**

|                      |                                                                                                                                                                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lens Type            | Fixed-focal                                                                                                                                                                                                                                                                            |
| Lens Mount           | M12                                                                                                                                                                                                                                                                                    |
| Focal Length         | 2.8 mm; 6 mm                                                                                                                                                                                                                                                                           |
| Max. Aperture        | 2.8 mm: F1.6<br>6 mm: F1.6                                                                                                                                                                                                                                                             |
| Field of View        | 2.8 mm:<br>Channel 1:<br>Horizontal: 110.8°; Vertical: 59°; Diagonal: 131°<br>Channel 2:<br>Horizontal: 106°; Vertical: 57°; Diagonal: 126°<br>6 mm:<br>Channel 1:<br>Horizontal: 55°; Vertical: 30.3°; Diagonal: 64°<br>Channel 2:<br>Horizontal: 54°; Vertical: 29°; Diagonal: 62.9° |
| Iris Control         | Fixed                                                                                                                                                                                                                                                                                  |
| Close Focus Distance | 2.8 mm:<br>Channel 1: 1.8 m (5.9 ft)<br>Channel 2: 0.6 m (2.0 ft)<br>6 mm:<br>Channel 1: 4.3 m (14.1 ft)<br>Channel 2: 2.7 m (8.9 ft)                                                                                                                                                  |

| DORI Distance | Lens   |                   | Detect             | Observe           | Recognize         | Identify         |
|---------------|--------|-------------------|--------------------|-------------------|-------------------|------------------|
|               | 2.8 mm | CH1               | 84.0 m (275.6 ft)  | 33.6 m (110.2 ft) | 16.8 m (55.1 ft)  | 8.4 m (27.6 ft)  |
|               |        | CH2               | 38.6 m (126.6 ft)  | 15.4 m (50.5 ft)  | 7.7 m (25.3 ft)   | 3.9 m (12.8 ft)  |
|               | 6 mm   | CH1               | 164.0 m (538.1 ft) | 65.6 m (215.2 ft) | 32.8 m (107.6 ft) | 16.4 m (53.8 ft) |
| CH2           |        | 82.8 m (271.7 ft) | 33.1 m (108.6 ft)  | 16.6 m (54.5 ft)  | 8.3 m (27.2 ft)   |                  |

**Smart Event**

|     |                                                                                              |
|-----|----------------------------------------------------------------------------------------------|
| IVS | Tripwire; intrusion; loitering detection; people gathering; abandoned object; missing object |
|-----|----------------------------------------------------------------------------------------------|

**Professional, intelligent**

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Face Recognition | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attribute extraction including 6 attributes (gender, age, glasses, expressions, mask and beard) and 8 expressions (anger, calm, happiness, sadness, disgust, surprise, confusion and fear); face snapshot set as face or one-inch photo; 2 snapshot strategies (recognition priority and optimization snapshot); face angle filter; optimization time setting; up to 5 face database; single or batch personnel registration; similarity setting; up to 10 thousand face pictures for face database |
| Stereo Analysis  | Classroom:<br>Support people number error detection, running detection, walking detection, back detection, blackboard writing detection, fall detection, and activation analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 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+                                                                                                                                                                                                                                                                                                                 |
| Video Frame Rate  | Channel 1:<br>Main stream: 3840 × 2160@25/30 fps<br>Sub stream: 1920 × 1080@25/30 fps<br>Third stream: 1280 × 720@25/30 fps<br>Fourth stream: 1920 × 1080@25/30 fps<br>Channel 2:<br>Main stream: 1920 × 1080@25/30 fps<br>Sub stream: 1280 × 720@25/30 fps<br>Third stream: 1920 × 1080@25/30 fps<br>Fourth stream: 1280 × 720@25/30 fps |
| Stream Capability | 4 streams                                                                                                                                                                                                                                                                                                                                 |
| Resolution        | 3840 × 2160 (3840 × 2160); 3072 × 2048 (3072 × 2048); 3072 × 1728 (3072 × 1728); 2592 × 1944 (2592 × 1944); 2688 × 1520 (2688 × 1520); 3M (2048 × 1536); 2304 × 1296 (2304 × 1296); 1080p (1920 × 1080); 1280 × 960 (1.3M); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)                       |
| Bit Rate Control  | CBR/VBR                                                                                                                                                                                                                                                                                                                                   |
| Video Bit Rate    | Channel 1:<br>H.264: 32 kbps–16,384 kbps<br>H.265: 12 kbps–16,384 kbps<br>Channel 2:<br>H.264: 32 kbps–12,032 kbps<br>H.265: 12 kbps–7,424 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             | Auto; manual                                                     |
| Noise Reduction          | 3D NR                                                            |
| Motion Detection         | OFF/ON (4 areas, rectangular)                                    |
| Region of Interest (RoI) | Yes (4 areas)                                                    |
| Image Stabilization      | Channel 1: Electronic Image Stabilization (EIS)<br>Channel 1: NA |
| Smart Illumination       | Yes                                                              |
| Privacy Masking          | 4 areas                                                          |

### Audio

|                   |                                   |
|-------------------|-----------------------------------|
| Built-in MIC      | Yes                               |
| Audio Compression | G.711a; G.711Mu;PCM; G.726; G.723 |

### Alarm

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alarm Event | No SD card; SD card no space; SD card error; network disconnection; IP conflict; motion detection; video tampering; tripwire; intrusion; abandoned object; missing object; scene changing; audio detection; sound intensity changing; people number exception detection; running detection; walking detection; back detection; blackboard writing detection; fall detection, face recognition; illegal access; voltage detection; security exception |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Network

|                  |                                                                                                                                                                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network Port     | RJ-45 (10/100/1,000 Base-T)                                                                                                                                                                                                                               |
| SDK and API      | Yes                                                                                                                                                                                                                                                       |
| Cyber 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 |
| 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                                                                                                  |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI; Milestone; Genetec; P2P; RTMP                                                                                                                                                                                 |
| User/Host        | 20 (Total bandwidth: 320 M)                                                                                                                                                                                                                               |
| Storage          | FTP; SFTP; Micro SD card (Support max. 256 G); NAS                                                                                                                                                                                                        |
| Browser          | IE: IE11 and earlier<br>Chrome: 76 and earlier<br>Firefox: 68 and earlier                                                                                                                                                                                 |
| Mobile Client    | IOS; Android                                                                                                                                                                                                                                              |

### Port

|              |                                             |
|--------------|---------------------------------------------|
| RS-485       | 1 (Baud rate range: 1,200 bps–115,200 bps)  |
| Audio Input  | 1 channel (3.5 mm JACK port)                |
| Audio Output | 1 channel (3.5 mm JACK port)                |
| Alarm Input  | 3 channels in: 5mA 3V–5V DC                 |
| Alarm Output | 2 channels out: 1,000mA 30V DC/500mA 50V DC |

### Power

|                   |                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------|
| Power Supply      | 12V DC/PoE (802.3at)                                                                                              |
| Power Consumption | Basic: 7.54W (12V DC); 9W (PoE)<br>Max. (WDR + stereo analysis + IR LED intensity): 10.32W (12V DC); 12.94W (PoE) |

### Environment

|                       |                                  |
|-----------------------|----------------------------------|
| Operating Temperature | –40°C to +60°C (–40°F to +140°F) |
| Operating Humidity    | ≤ 95%                            |
| Protection            | IP67                             |

### Structure

|                    |                                                                |
|--------------------|----------------------------------------------------------------|
| Casing             | Metal + plastic                                                |
| Product Dimensions | 176.9 mm × 230.9 mm × 50.4 mm (7.0" × 9.1" × 2.0") (L × W × H) |
| Net Weight         | 1.87 kg (4.1 lb)                                               |
| Gross Weight       | 2.37 kg (5.2 lb)                                               |

### Ordering Information

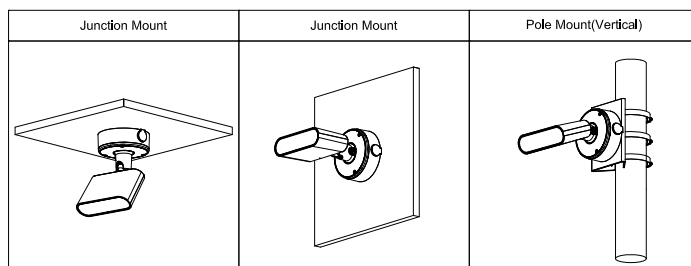
| Type                   | Model                | Description                            |
|------------------------|----------------------|----------------------------------------|
| 8MP Camera             | DH-IPC-HFW8841-E3-LB | 8MP WizMind Triple-Lens Network Camera |
|                        | IPC-HFW8841X-E3-LB   | 8MP WizMind Triple-Lens Network Camera |
| Accessories (Optional) | PFA154               | Pole Mount                             |

### Accessories

#### Optional:



PFA154 Pole Mount



Dimensions (mm[inch])

