# DH-IPC-HDBW7842E1-Z4-X

## 8MP IR Dome WizMind Network CAMERA

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

Driven by deep learning algorithms, Dahua WizMind X Series network camera supports various intelligent functions, meeting the requirements of a wide variety of scenes. The camera can accurately recognize people, motor vehicles and non-motor vehicles. It also supports face recognition, PPE detection, smart sound detection, privacy protection, ANPR, and parking space management. 2 intelligent functions can be enabled at the same time. The camera adopts advanced image processing AI-Powered Image technology, has a high frame rate and the Deeplight night vision effect, and works with ultra-low streams. It is also dustproof, waterproof and vandal-proof, and is certified as IP67 and IK10 (the type of protection varies depending on the model).

## Functions

### AI-Powered Image

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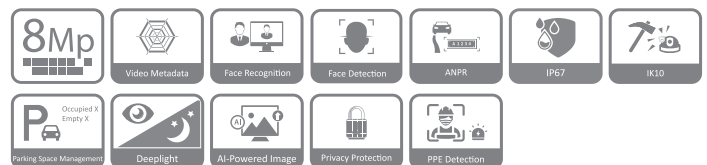
### Video Metadata

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. The camera can count targets by directions (A>B, B>A, or A< >B), and export the report.

### 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 compromising the device.

- 8-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 8 MP (3840 × 2160)@50/60 fps.
- Built-in IR LED, and the max. illumination distance is 80 m.
- ROI, flexible coding, applicable to various bandwidth and storage environments.
- Two intelligent functions can be enabled at the same time, such as face recognition+people counting, face detection+people counting and PPE Detection+IVS.
- With deep learning algorithm, it supports: face recognition, face detection, IVS, people counting, video metadata, PPE Detection, parking space management and ANPR, etc.
- Privacy Protection: Mosaics can be automatically placed over the face or body of a person to protect their privacy.
- Built-in Hi-Fi large-diameter speaker covers an auditory range of 20 meters.
- Sound Management: With its built-in dual MICs and Dahua noise reduction algorithms, the camera supports the sound management function, using it to collect vocals, adaptively reduce noise, and filter non-human voices.
- Alarm: 3 in, 2 out; audio: 1 in, 1 out; RS-485; BNC; supports max. 512 G Micro SD card.
- Built-in dual MICs; 1-ch speaker; support two-way talk.
- 12 VDC/24VAC/PoE+ (802.3at)/ePoE power supply, 12 VDC power output, max. current 165 mA and peak current is 700 mA, easy for installation.
- IP67 and IK10 protection, Anti-Corrosion coating (optional).

| 8Mp | Video Metadata | Face Recognition | Face Detection | ANPR | IP67 | IK10 |
| --- | --- | --- | --- | --- | --- | --- |
| Parking Space Management | Deeplight | AI-Powered Image | Privacy Protection | PPE Detection | | |

### Parking Space Management

With Parking Space Management, the camera can count the number of parked vehicles and parking spaces available in open parking lots and planned parking lots. It can extract and display the status of parking spaces, so as to facilitate the management of parking spaces and improve parking efficiency.

### Privacy Protection

Dahua Privacy Protection technology can mask the detected face and human body to protect the privacy of some special targets.

## ANPR

With high-performance GPU chip, deep learning algorithm, and lots of sample training learning, Dahua ANPR technology can automatically collect and recognize the vehicle information, including license plate, logo, vehicle type, and vehicle color.

## PPE Detection

With the PPE Detection function, the camera can detect attributes including workwear, hat,face mask,apron,gloves,shoe covers, boots, seatbelt, safety vest, and determine whether PPE requirements are met. Match attributes alarm or mismatch attributes alarm can be triggered according to the alarm settings.

## 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 ±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 | 3840 (H) × 2160 (V) |
| ROM | 8 GB |
| RAM | 4 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.0007 lux@F1.6 (Color, 30 IRE)<br>0.0004 lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | 80 m (262.47 ft) (IR) |
| Illuminator On/Off Control | Auto |
| Illuminator Number | 3 (IR LED) |
| Angle Adjustment | Pan: 0-355°<br>Tilt: 0-80°<br>Rotation: 0-355° |

### Lens

| Lens Type | Motorized vari-focal |
|---|---|
| Lens Mount | Module |
| Focal Length | 8 mm–32 mm |
| Max. Aperture | F1.6 |
| Field of View | H: 42°–15°; V: 23°–9°; D: 48°–17° |
| Iris Control | Auto |
| Iris Control Type | P-Iris |
| Close Focus Distance | 1.5 m (4.92 ft) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| **DORI Distance** | W | 213.6 m (700.79 ft) | 85.4 m (280.18 ft) | 42.7 m (140.09 ft) | 21.4 m (70.21 ft) |
| | T | 572.8 m (1879.27 ft) | 227.1 m (751.64 ft) | 114.6 m (375.98 ft) | 57.3 m (187.99 ft) |

### Smart Event

| IVS | Abandoned object; missing object |
|---|---|

### Intelligence

| EPTZ | Yes |
|---|---|
| IVS (Perimeter Protection) | Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection, people gathering, and parking detection;privacy protection |
| Face Detection | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face or one inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting; privacy protection |
| Face Recognition | There are two modes: General mode and counting mode.<br>General mode:<br>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 or one inch photo; snapshot strategies (recognition priority and optimization snapshot); face angle filter; optimization time setting;<br>privacy protection.<br>Supports adding 5 group face databases; registering person one by one or in batches; setting face similarity; and supports face comparison with the face database containing up to 200,000 face pictures.<br>Counting mode:<br>Offers advanced customer counter, filters out specified faces from the face database, and exports reports both before and after removing duplicate faces. |
| PPE Detection | Triggers alarms when the detected object matches or does not match all of the configured attributes (workwear,hat,face mask,apron,gloves,shoe covers,boots,seatbelt,safety vest); privacy protection |
| People Counting | Tripwire people counting and people counting in area, generating and exporting report (day/month/year); queue management, generating and exporting report (day/month); 4 rules can be set for tripwire, people counting in area and queue management; privacy protection |
| Heat Map | Yes |
| ANPR | ANPR: ANPR, track, priority, snapshot.<br>Vehicle attributes: License plate, vehicle type, vehicle color.<br>Other attributes: Seat belt, smoking, calling.<br>Suppor up to 10,000 blocklist records and 10,000 allowlist records. The camera can recognize plate numbers of vehicles moving at speeds of up to 60km/h. |
| Parking Space Management | Parking Space Management: Manage outdoor and planned parking lots; manage parking spaces in multiple areas; display the total number of parking spaces and parking spaces that are available; trigger alarms based on a predefined number of vehicles. |

| Video Metadata | Motor vehicle, non-motor vehicle, face, and human body detection; snapshot; snapshot optimization; optimal face snapshot upload.<br>Motor vehicle attributes: License plate, vehicle type, vehicle color, vehicle logo, seatbelt, smoking, and calling. Generates flow statistics for people, motor vehicles and non-motor vehicles based on the direction, and exports reports.<br>Non-motor vehicle attributes: Type, vehicle color, number of people, top type and color, and hat.<br>Human body attributes: Top and bottom type and color, bag, hat, gender and umbrella.<br>privacy protection |
|---|---|
| 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 | Default:<br>Main Stream: 3840 × 2160@(1–25/30 fps)<br>Sub stream: 1920×1080@(1–25/30 fps)<br>Third stream: 1920 × 1080@(1–25/30 fps)<br>Fourth stream: 1920 × 1080@(1–25/30 fps)<br>Fifth stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps)<br>High Frame Rate:<br>Main Stream: 3840 × 2160@(1–50/60 fps)<br>Sub stream: 1920×1080@(1–25/30 fps) |
| Stream Capability | 5 streams |
| Resolution | 8M (3840 × 2160); 6M (3072 × 2048); 5M (3072×1728); 5M (2592 × 1944); 4M (2688 × 1520); 3M (2048 × 1536); 3M (2304 × 1296) 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 32 kbps–16384 kbps; H.264: 12 kbps–12800 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 |
| Noise Reduction | 3D NR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest (RoI) | Yes (4 areas) |
| Image Stabilization | Electronic Image Stabilization (EIS) |
| Smart Illumination | Yes |
| Defog | Yes |

| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower) |
|---|---|
| Mirror | Yes |
| Privacy Masking | 8 areas |

## Audio

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

## Alarm

| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; parking space management; scene changing; audio detection; defocus detection; external alarm; face detection; face recognition; video metadata; ANPR; people counting in area; stay alarm; people counting; people number error detection; people stay detection; security exception; PPE detection |
|---|---|

## Network

| Network Port | RJ-45 (10/100/1000 Base-T) |
|---|---|
| SDK and API | Yes |
| Network Protocol | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP ; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP; P2P |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI; P2P |
| User/Host | 20 (Total bandwidth: 340 M) |
| Storage | FTP;SFTP; Micro SD card (support max. 512 GB); NAS |
| Browser | IE: IE11 and later;<br>Chrome: Chrome 88.0.4324.190 and later;<br>Firefox: Firefox 47.0.2 and later |
| Management Software | SmartPSS Lite; DSS; DMSS |
| Mobile Client | iOS; Android |
| Cyber Security | Configuration encryption;Trusted execution;Digest;Security logs;WSSE;Account lockout;syslog;Video encryption;802.1x;IP/MAC filtering;HTTPS;Trusted upgrade;Trusted boot;Firmware encryption;Generation and importing of X.509 certification |

## Certification

| Certifications | CE-LVD: EN62368-1;<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU;<br>FCC: 47 CFR FCC Part 15, Subpart B;<br>UL/CUL: UL62368-1 & CAN/CSA C22.2 No. 62368-1-14; |
|---|---|

## 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 | 3 channels in: 5mA 3V–5V DC |
| Alarm Output | 2 channels out: 1,000mA 30V DC/500mA 50V AC |
| Analog Output | 1 channel (CVBS output: BNC) |

## Power

| | |
|---|---|
| Power Supply | 12 VDC/24 VAC/PoE+ (802.3at)/ePoE |
| Power Consumption | Basic: 6.6 W (12 VDC); 9.3 W (24 VAC); 9.8 W (PoE)<br>Max. (ICR switch + IR intensity): 18.7 W (12 VDC); 24.8 W (24 VAC); 25.2 W (PoE)<br>Heating: 3 W (12 VDC); 4.6 W (24 VAC); 5.47 W (PoE) |

## Environment

| | |
|---|---|
| Operating Temperature | −40 °C to +65 °C (−40 °F to +149 °F) |
| Operating Humidity | ≤95% |
| Storage Temperature | −40 °C to +65 °C (−40 °F to +149 °F) |
| Storage Humidity | 10–95% |
| Protection | IP67, IK10, Anti-Corrosion Protection (optional) |

## Structure

| | |
|---|---|
| Casing Material | Metal + plastic |
| Product Dimensions | 118.0 mm × Φ159.0 mm (4.65" × Φ6.26") |
| Net Weight | 1.16 kg (2.56 lb) |
| Gross Weight | 1.36 kg (3.00 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 8MP Camera | DH-IPC-HDBW7842E1-Z4-X | 8MP IR Dome WizMind Network Camera |
| | IPC-HDBW7842E1-Z4-X | 8MP IR Dome WizMind Network Camera |
| Accessories (Optional) | PFB211W | Wall Mount Bracket |
| | PFA156 | Pole Mount Bracket |
| | PFA101 | Mount Adapter |
| | PFB300C | Ceiling Mount Bracket |
| | PFB5201C | In-ceiling Mount Bracket |
| | PFA138 | Junction Box |
| | PFM320D | 12 VDC 2 A Power Adapter |
| | PFM900-E | Integrated Mount Tester |
| | TF-P100 | MicroSD Memory Card |

## Accessories

Optional:



PFB211W
Wall Mount Bracket

PFA156
Pole Mount Bracket

PFA101
Mount Adapter

PFB300C
Ceiling Mount Bracket

PFB5201C
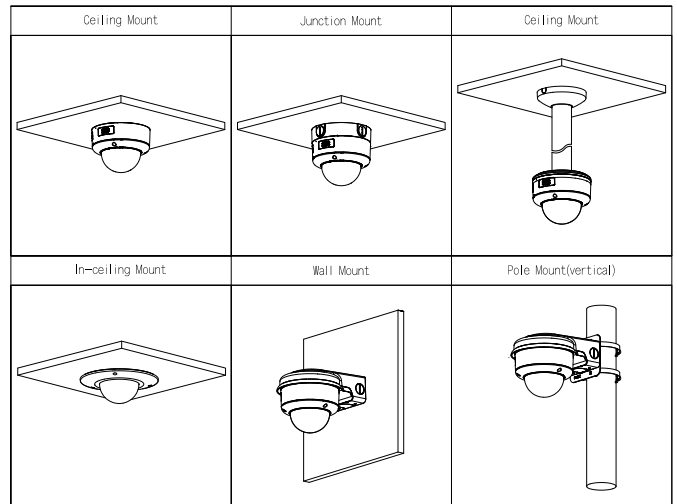In-ceiling Mount Bracket

PFA138
Junction Box

PFM320D
12 VDC 2A Power Adapter

PFM900-E
Integrated Mount Tester

TF-P100
MicroSD Memory Card



| Ceiling Mount | Junction Mount | Ceiling Mount |
|---|---|---|
| In-ceiling Mount | Wall Mount | Pole Mount(vertical) |

## Dimensions (mm[inch])



∅140.0 [∅5.51]
∅159.0 [∅6.26]
3−∅4.5 [∅0.18]
FRONT
118.0 [4.64]
63.4 [2.50]