**dahua** TECHNOLOGY

# DH-IPC-HDBW7442H-Z4-S2
## 4MP IR Dome WizMind Network Camera

**WizMind**

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

With advanced deep learning algorithm, Dahua WizMind 7 Series network camera supports various intelligent functions and satisfies the requirements in different scenes. The camera can accurately recognize person, vehicle, and non-motor vehicle, face, and liveness. This series camera has ultra starlight night version effect, and works with ultra-low stream. It supports dust-proof function, waterproof function and vandal-proof function, complying with the standards of IP67 and IK10 (Supported by some select models).

## Functions

### Smart H.265+ & Smart H.264+
With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.
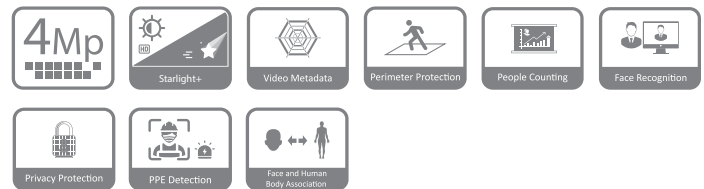
### Starlight+
With advanced image processing technology, optical technology, and image sensor of large target surface, Dahua Starlight+ technology can provide clear colorful video in the environment of ultra-low illuminance. It applies to various environments of low illuminance.

### 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.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@50/60 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- ROI, SMART H.264 +/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Built-in IR LED, and the max. illumination distance is 80 m.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- With deep learning algorithm, it supports video metadata, face detection,face recognition,people counting, perimeter protection,etc.
- Supports P-Iris, the camera can control the iris more precisely for better image effect.
- Alarm: 3 in, 2 out; audio: 1 in, 1 out; RS-485, BNC, supports max. 256 G Micro SD card.
- 12 VDC/24 VAC/PoE  power supply (the power ports are different depending on the power supply).
- IP67, IK10 protection grade.
- 12 VDC power output, max. current 165mA , easy for installation
- Anti-corrosion coating (optional).

4Mp | Starlight+ | Video Metadata | Perimeter Protection | People Counting | Face Recognition

Privacy Protection | PPE Detection | Face and Human Body Association

### 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.

### People Counting
With deep learning algorithm, Dahua People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs reports to meet your requirements.

### Face Detection
Dahua Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

## Face Recognition

Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database to recognize the person identity.

## Cyber Security

Dahua network camera is equipped with a series of key security technologies, such as security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage, which improve its security defense and data protection, and prevent malicious programs from invading the device.

## Privacy Protection

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

## PPE Detection

With the PPE Detection function, the camera can detect attributes including face masks, helmets, glasses, safety vests, and the color of tops and bottoms, and determine whether PPE requirements are met. PPE compliance or non-compliance alarms can be triggered according to the alarm settings.

## Face and Human Body Association

With deep learning algorithm, Dahua Face and Human Body Association technology detects face and human body of one person, captures them separately, selects the best image, and then associates them.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/1.8" CMOS |
| Max. Resolution | 2688 (H) × 1520 (V) |
| ROM | 4 GB |
| RAM | 2 GB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.001 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 | 80 m (262.47 ft) |
| Illuminator On/Off Control | Auto;Manual;Zoomprio |
| Illuminator Number | 3 (IR LED) |
| Pan/Tilt/Rotation Range | Pan: 0°–355°<br>Tilt: 0°–80°<br>Rotation: 0°–355° |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Lens Mount | Module interface |
| Focal Length | 8-32 mm |
| Max. Aperture | F1.6 (Constant) |
| Field of View | Horizontal: 41° (W)–15° (T)<br>Vertical: 22° (W)–9° (T)<br>Diagonal: 48° (W)–18° (T) |
| Iris Control | Auto; P-iris |
| Close Focus Distance | 1 m (3.28 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | W | 160 m (524.93 ft) | 64 m (209.97 ft) | 32 m (104.99 ft) | 16 m (52.49 ft) |
| | T | 406.9 m (1334.97 ft) | 162.8 m (534.12 ft) | 81.4 m (267.06 ft) | 40.7 m (133.53 ft) |

### Smart Event

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

### Professional, intelligent

| | |
|---|---|
| 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 |
| Face Detection | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes (gender, age, glasses, expressions, mask, and beard) and 8 expressions (angry, sad, disgusted, scared, surprised, calm, happy, confused); 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. |
| Face Recognition | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes (gender, age, glasses, expressions, mask, and beard) and 8 expressions (angry, sad, disgusted, scared, surprised, calm, happy, confused); face snapshot set as face or one-inch photo; snapshot strategies (recognition priority and optimization snapshot); face angle filter; optimization time setting. Support 5 face databases; register one by one or in batches; support face recognition similarity settings and face comparison on the basis of 100,000 face databases. |
| Face and Body Detection | There are two modes: General mode and PPE Detection. General mode: Supports enabling face detection and human detection at the same time, and alarms can be triggered. PPE Detection: Supports PPE detection, can detect attributes including face mask, safety helmet,glasses, and safety vest, top color and bottom color,and determine whether PPE requirements are met. Alarms can be triggered according to the alarm settings. |
| People Counting | Tripwire people counting and people counting in area; generating and exporting report (day/month/year); queue management and exporting report (day/month); 4 rules can be set for tripwire, people counting in area and queue management. |
| Video Metadata | Motor vehicle, non-motor vehicle, face, human detection; track; snapshot; snapshot optimization; optimal face snapshot upload.<br>Motor vehicle attributes: license plate, vehicle type, vehicle color, vehicle logo and other attributes : seatbelt, smoking, calling.<br>Non-motor vehicle attributes: type, color, number of people, top type and color, helmet.<br>Human body attributes: top/bottom type and color, bag, hat and umbrella.<br>Face attributes: gender, age, expressions, glasses, face mask and beard. |

| | |
|---|---|
| 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; MJPEG (Only supported by the sub stream) |
| Smart Codec | Smart H.265+; Smart H.264+ |
| Video Frame Rate | Main Stream: 2688 × 1520@(1–50/60 fps) Sub stream: 704 × 576@(1–25 fps); 704 × 480@(1–30 fps) Third stream: 1920 × 1080@(1–25/30 fps) Fourth stream: 1920 × 1080@(1–25/30 fps) Fifth stream: 704 × 576@(1–25fps); 704 × 480@(1–30 fps) |
| Stream Capability | 5 streams |
| Resolution | 4M (2688 × 1520); 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 | CBR/VBR |
| Video Bit Rate | H.264: 32 kbps–10240 kbps H.265: 12 kbps–9984 kbps |
| Day/Night | Auto (ICR)/Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 140 dB |
| Scene Self-adaptation (SSA) | Yes |
| White Balance | Auto; natural; street lamp; outdoor; manual; regional custom |
| Gain Control | Auto;Manual |
| Noise Reduction | 3D NR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest (RoI) | Yes (4 areas) |
| Image Stabilization | Electronic Image Stabilization (EIS) |
| Smart Illumination | Yes |
| Defog | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

## Audio

| | |
|---|---|
| Audio Compression | PCM; G.711A; G.711Mu; G.726; G.723 |

## Alarm

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

## Network

| | |
|---|---|
| Network Port | RJ-45 (10/100/1000 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; P2P |
| User/Host | 20 (Total bandwidth: 80M) |
| Storage | FTP;SFTP; Micro SD card (support max. 256 GB); NAS |
| Browser | IE: IE9 and later Chrome: Chrome 42 and later Firefox: Firefox 48.0.2 and later |
| Management Software | Smart PSS; DSS; DMSS |
| Mobile Client | iOS; Android |
| Gross Weight | 1.6 kg (3.53 lb) |
| Certifications | CE-LVD:EN62368-1; CE-EMC:Electromagnetic Compatibility Directive 2014/30/EU; FCC:47 CFR FCC Part 15, Subpart B; UL/CUL:UL62368-1 & CAN/CSA C22.2 No. 62368-1-14; UL 50E NEMA Type 4X (optional) |

## Port

| | |
|---|---|
| RS-485 | 1 (baud rate range:1200 bps–115200 bps) |
| Audio Input | 1 channel (3-pin terminal with 2.54 mm clearance, with audio cable) |
| Audio Output | 1 channel (3-pin terminal with 2.54 mm clearance, with audio cable) |
| Alarm Input | 3 channels in: 5mA 3 V–5 VDC |
| Alarm Output | 2 channels out: 1,000 mA 30 VDC/500 mA 50 VDC |

## Power

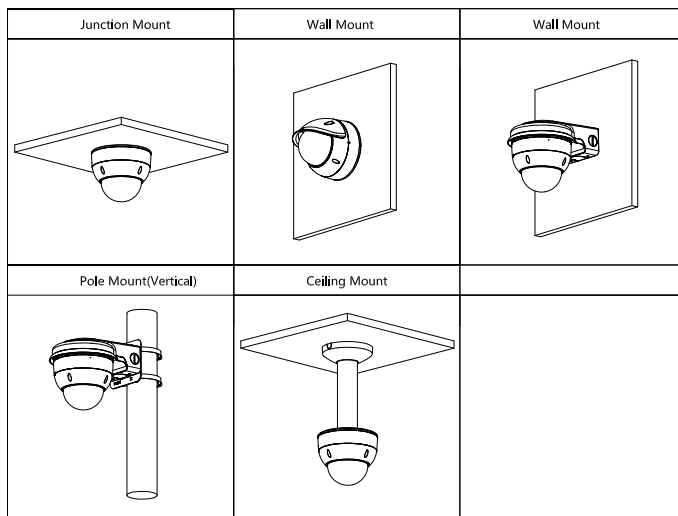| | |
|---|---|
| Power Supply | 12 VDC/24 VAC/PoE+ (802.3at) |
| Power Consumption | Basic power consumption: 7.10 W (12 VDC); 6.71 W (24 VAC); 7.37 W (PoE) Max. power consumption (Max. stream + intelligent function + IR LED + focus): 22.18 W (12 VDC); 21.17 W (24 VAC); 22.38 W (PoE) Heat power consumption: 3.3 W (12 VDC); 5.5 W (24 VAC); 5.5 W (PoE) |

## Environment

| | |
|---|---|
| Operating Temperature | −40 °C to +65 °C (−40 °F to +149 °F) |
| Storage conditions | −40 °C to +70 °C (−40 °F to +158 °F) |
| Protection Grade | IP67, IK10, Anti-Corrosion Protection: NEMA 4X(optional) |

## Structure

| | |
|---|---|
| Casing | Metal + plastic |
| Product Dimensions | 129.1 mm × Φ157.9 mm (5.08" × Φ6.22") |
| Net Weight | 1.5 kg (3.31 lb) |

## Ordering Information

| Type | Model | Description |
|------|-------|-------------|
| 4MP Camera | DH-IPC-HDBW7442H-Z4-S2 | 4MP IR Bullet WizMind Network Camera |
| | IPC-HDBW7442H-Z4-S2 | 4MP IR Bullet WizMind Network Camera |
| Accessories (Optional) | PFA773 | Sun Shade |
| | PFB211W | Wall Mount |
| | PFA152-E | Pole Mount |
| | PFA101 | Mount Adapter |
| | PFB300C | Ceiling Mount |
| | PFM320D | 12 VDC 2APower Adapter |
| | PFM900-E | Integrated Mount Tester |
| | TF-P100 | MicroSD Memory Card |

## Accessories

Optional:

| | | |
|---|---|---|
| PFA773 Sun Shade | PFB211W Wall Mount | PFA152-E Pole Mount |
| PFA101 Mount Adapter | PFB300C Ceiling Mount | PFM320D 12 VDC 2A Power Adapter |
| PFM900-E Integrated Mount Tester | TF-P100 MicroSD Memory Card | |

| Junction Mount | Wall Mount | Wall Mount |
|---|---|---|
| Pole Mount(Vertical) | Ceiling Mount | |

## Dimensions (mm[inch])

74.5 [2.93]

129.1 [5.08]

⌀157.9 [⌀6.22]

4-⌀4.7 [⌀0.19]

⌀142.0 [⌀5.59]

⌀142.0 [⌀5.59]
⌀140.0 [⌀5.51]

4-⌀3.7 [⌀0.15]

3-⌀4.5 [⌀0.18]