# DH-IPC-MFW7842K1-Z7-T20

## 8+2 MP Dual-Sight Bullet WizMind 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

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, ANPR, 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 and optical technology, Dahua Starlight technology can provide clear colorful video in the environment of low illuminance. It widely applies to various environments of low illuminance.

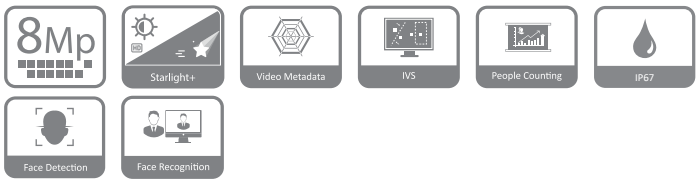
**Video Metadata**

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.

**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.

- 8-MP 1/1.7" CMOS image sensor and 2-MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 8 MP (3840 × 2160)@25/30 fps.
- Built-in GPU chip and deep learning algorithm, which can improve the detection accuracy.
- Switch among five intelligent resources: IVS, face detection, video metadata, people counting and face recognition.
- Built-in warm light/IR LED that has a maximum IR illumination distance of 120 m and warm light distance of 80 m.
- 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Alarm: 3 in, 2 out; audio: 2 in, 1 out; RS-485; BNC; supports max. 256 G Micro SD card.
- Designed with the Dahua Noise Reduction Algorithm and built-in dual microphones, the device performs active noise control, eliminating noise of wind scale 3. It has a pick-up distance up to 20 m.
- Built-in Hi-Fi large-diameter speaker covers an auditory range of 30 meters when used indoors.
- Sound and light alarms are generated when an alarm is triggered.
- 12 VDC/PoE power supply, 12 VDC power output, max. current 165 mA, easy for installation.
- IP67 protection.




**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.

**IVS**

With advanced video algorithm, Dahua IVS technology supports intelligent functions, such as tripwire and intrusion.

**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 works normal after soaking in 1 m deep water for 30 minutes.
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.

**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.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | Channel 1: 1/1.7" CMOS<br>Channel 2: 1/2.7" CMOS |
| Max. Resolution | 3840 (H) × 2160 (V) |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | Channel 1:<br>0.0015 lux @F1.2 (Color, 30IRE)<br>0.0003 lux @F1.2 (B/W, 30IRE)<br>0 lux (Illuminator on)<br>Channel 2:<br>0.002 lux @F1.0 (Color, 30IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | > 56 dB |
| Illumination Distance | Channel 1:<br>120 m (393.70 ft) (IR)80 m (262.47 ft) (warm light)<br>Channel 2:<br>20 m (65.62 ft) (warm light) |
| Illuminator Number | Channel 1: 4 (Mixed (IR + warm) light)<br>Channel 2: 2 (warm LED) |

### Lens

| | |
|---|---|
| Lens Type | Channel 1: Motorized vari-focal<br>Channel 2: Fixed-focal |
| Lens Mount | Channel 1: Module<br>Channel 2: M12 |
| Focal Length | Channel 1: 8 mm–56 mm<br>Channel 2: 3.6 mm |
| Max. Aperture | Channel 1: F1.2<br>Channel 2: F1.0 |
| Field of View | Channel 1:<br>Horizontal: 40° (W)–9° (T)<br>Vertical: 22° (W)–5° (T)<br>Diagonal: 46° (W)–10° (T)<br>Channel 2:<br>Horizontal: 81°<br>Vertical: 43°<br>Diagonal: 95° |
| Close Focus Distance | Channel 1:<br>W: 1 m (3.28 ft); T: 2 m (6.56 ft)<br>Channel 2:<br>2 m (6.56 ft) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | W | Channel 1:<br>8 mm–56 mm<br>216 m<br>(708.66 ft)<br>Channel 2:<br>3.6 mm<br>80 m<br>(262.47 ft) | Channel 1:<br>8 mm–56 mm<br>86 m<br>(282.15 ft)<br>Channel 2:<br>3.6 mm<br>32 m<br>(104.99 ft) | Channel 1:<br>8 mm–56 mm<br>43 m<br>(141.08 ft)<br>Channel 2:<br>3.6 mm<br>16 m<br>(52.49 ft) | Channel 1:<br>8 mm–56mm<br>21.5 m<br>(70.54 ft)<br>Channel 2:<br>3.6 mm<br>8 m<br>(26.25 ft) |
| | T | Channel 1:<br>8 mm–56 mm<br>950 m<br>(3,116.80 ft) | Channel 1:<br>8 mm–56 mm<br>380 m<br>(1246.72 ft) | Channel 1:<br>8 mm–56 mm<br>190 m<br>(623.36 ft) | Channel 1:<br>8 mm–56mm<br>95 m<br>(311.68 ft) |

### Smart Event

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

### Intelligence

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|---|---|
| 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, face 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); 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, face 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); optimization time setting.<br>Dahua Face Recognition Technology extracts attributes from the captured face, compares it against the attributes in the face library, and then identifies the person. Management of 5 group face libraries,Max supports face contrast in face library with 25,000 faces |
| People Counting | Tripwire people counting, people counting in area and queue management, generating and exporting report (day/month/year); 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, seatbelt, smoking, calling,etc.<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, gender, 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

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|---|---|
| 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>50 Hz<br>Main Stream: 3840 × 2160@25 fps<br>Sub stream: 704 × 576@25 fps<br>Third stream: 1920 × 1080@25 fps<br>60 Hz<br>Main Stream: 3840 × 2160@30 fps<br>Sub stream: 704 × 480@30 fps<br>Third stream: 1920 × 1080@30 fps<br>Channel 2:<br>50 Hz<br>Main Stream: 1920 × 1080@25 fps<br>Sub stream: 704 × 576@25 fps<br>Third stream: 1920 × 1080@25 fps<br>60 Hz<br>Main Stream: 1920 × 1080@30 fps<br>Sub stream: 704 × 480@30 fps<br>Third stream: 1920 × 1080@30fps |

| | |
|---|---|
| Resolution | Main Stream: 3840 × 2160; 3072 × 2048; 3072 × 1728; 2592 × 1944; 2688 × 1520 (default); 2304 × 1296; 1920 × 1080; 1280 × 960; 1280 × 720<br>Sub Stream 1: 704 × 576 (default); 640 × 480; 352 × 288<br>Sub Stream 2: 1920 × 1080; 1280 × 720; 704 × 576 (default); 640 × 480 |
| Video Bit Rate | H.264: 32 kbps–8192 kbps<br>H.265: 32 kbps–8192 kbps |
| Day/Night | Channel 1:<br>Auto(ICR)/Color/B/W<br>Channel 2:<br>Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 120 dB |
| White Balance | Auto; natural; street lamp; outdoor; manual; regional custom |
| Noise Reduction | 3D NR |
| Region of Interest (RoI) | 4 areas |
| Image Stabilization | Electronic Image Stabilization (EIS) |
| Defog | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower.) |
| Privacy Masking | 8 areas |

## Audio

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|---|---|
| Audio Compression | PCM; G.711A; G.711Mu; G.726; MPEG2-Layer2; G.722.1; G.729; G.723 |

## Alarm

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|---|---|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; license plate recognition, people number error; tripwire; input error; intrusion; intensity change; fast moving; people counting; people gathering; motion detection; missing object; parking detection; loitering detection; defocus detection; face detection; abandoned object; stay detection; human detection; queuing stay time; people number error detection; face recognition; video tampering; scene changing |

## Network

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|---|---|
| Network Port | RJ-45 (10/100/1000 Base-T) |
| Network Protocol | IPv4; IPv6; HTTP; HTTPS; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; 802.1x; SNMP; Bonjour |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI |
| User/Host | 20 (Total bandwidth: 240 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 256 GB); NAS |
| Browser | Plug-in:<br>IE: IE 9 and later<br>Chrome: Chrome 86 and earlier<br>Firefox: Firefox 86 and earlier<br>Without Plug-in:<br>Edge<br>Chrome: Chrome 86 and later<br>Firefox: Firefox 86 and later |

## Certification

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|---|---|
| Certifications | CE-LVD: EN62368-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B |

## Port

| | |
|---|---|
| RS-485 | 1 (baud rate range: 1200 bps–115200 bps) |
| Audio Input | 2 channels (RCA port) |
| Audio Output | 1 channel (RCA port) |
| Alarm Input | 3 channels in: 5 mA 3 V–5 VDC |
| Alarm Output | 2 channels out: 300 mA 12 VDC |

## Power

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|---|---|
| Power Supply | 12 VDC/PoE |
| Power Consumption | Basic: 5.5 W (12 VDC); 6.4 W (PoE)<br>Max. (ICR + vari-focal + IR intensity): 19.2 W (12 VDC); 24.6 W (PoE) |

## Environment

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|---|---|
| Operating Temperature | –30 °C to +60 °C (–22 °F to 140 °F) |
| Operating Humidity | ≤ 95% |
| Storage Temperature | –40 °C to +70 °C (–40 °F to +158 °F) |
| Protection | IP67 |

## Structure

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|---|---|
| Casing | Metal + plastic |
| Product Dimensions | 283.1 mm × 123.2 mm × 109.5 mm (11.14" × 4.85" × 4.31") (L × W × H) |
| Net Weight | 1,905 g (4.20 lb) |
| Gross Weight | 2,185 g (4.82 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 8 MP Camera | DH-IPC-MFW7842K1-Z7-T20 | 8+2 MP Dual-Sight Bullet WizMind Network Camera |
| | IPC-MFW7842K1-Z7-T20 | 8+2 MP Dual-Sight Bullet WizMind Network Camera |
| Accessories (Optional) | PFA150-SG | Pole Mount Bracket |
| | PFA162-SG | Housing Bracket |
| | PFB605W-SG | Wall Mount Bracket |
| | PFB603C-SG | Ceiling Mount |

## Accessories

Optional:



PFA150-SG
Pole Mount
Bracket



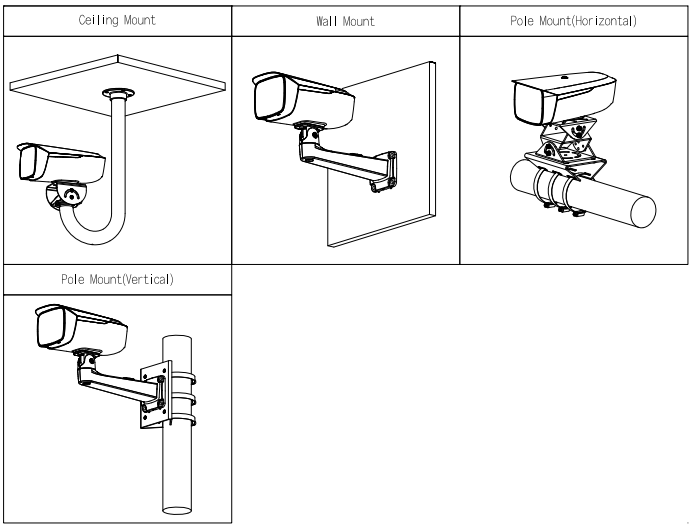
PFA162-SG
Housing
Bracket



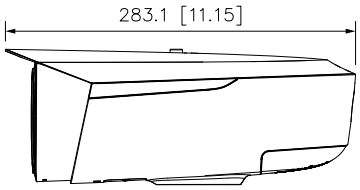
PFB605W-SG
Wall Mount
Bracket

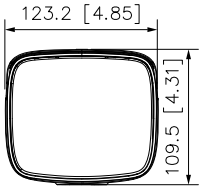


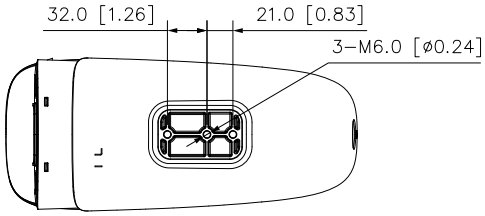
PFB603C-SG
Ceiling
Mount




## Dimensions (mm[inch])




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