DH-IPC-HDBW7442E1-Z4-X

4MP 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.

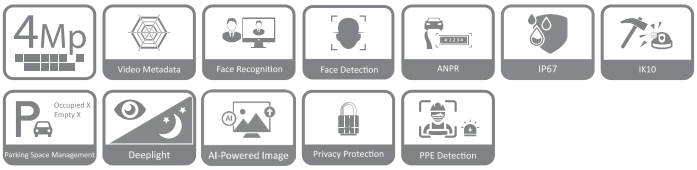
Video Metadata

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.

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.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@50/60 fps.
- Built-in IR LED, and the max. illumination distance is 80 m.
- Time-Division Exposure technology ensures that when the device is taking multiple snapshots of more than one targets, the quality of the snapshots will not be affected. It can also be used to adjust the brightness, speed and more of targets, to produce high quality snapshots.
- 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).



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.

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.

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.

Privacy Protection

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

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	2688 (H) × 1520 (V)
ROM	8 GB
RAM	4 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0006 lux@F1.6 (Color, 30 IRE) 0.0003 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 80 m (262.47 ft) (IR)
Illuminator On/Off Control	Auto
Illuminator Number	3 (IR LED)
Angle Adjustment	Pan: 0-355° Tilt:0-80° 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: 43°–15°; V: 24°–9°; D: 50°–17°
Iris Control	Auto
Iris Control Type	P-Iris
Close Focus Distance	1.5 m (4.92 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	147.3 m (493.28 ft)	58.9 m (193.24 ft)	29.5 m (96.78 ft)	14.7 m (48.23 ft)
	T	395 m (1295.93 ft)	158 m (518.37 ft)	79 m (259.19 ft)	39.5 m (129.59 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 distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.

Smart Event

IVS	Abandoned object; missing object

Intelligence

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. General mode: 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; privacy protection. 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. Counting mode: 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, generating and exporting report (day/week/month/year); people counting in area and queue management, generating and exporting report (day/week/month); 4 rules can be set for tripwire people counting, people counting in area and queue management; privacy protection
Heat Map	Yes

ANPR	ANPR: ANPR, track, priority, snapshot. Vehicle attributes: License plate, vehicle type, vehicle color. Other attributes: Seat belt, smoking, calling. 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. 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. Non-motor vehicle attributes: Type, vehicle color, number of people, top type and color, and hat. Human body attributes: Top and bottom type and color, bag, hat, gender and umbrella. 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	Main Stream: 2688 × 1520@(1–50/60 fps) Sub stream: 1920 × 1080@(1–25/30 fps) Third stream: 1920 × 1080@(1–25/30 fps) Fourth stream: 1920 × 1080@(1–25/30 fps) Fifth stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps)
Stream Capability	5 streams
Resolution	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–10240 kbps; H.264: 12 kbps–10240 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
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
Time-Division Exposure	Yes

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; Chrome: Chrome 88.0.4324.190 and later; 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 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

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: wet contact, 5mA 3V–5V DC
Alarm Output	2 channels out: dry contact, 1,000mA 30V DC/500mA 50V AC
Analog Output	1 channel (CVBS output: BNC)
Power Output	12 VDC power output, max. current 165 mA, peak current 700 mA

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) Max. (ICR switch + IR intensity): 18.7 W (12 VDC); 24.8 W (24 VAC); 25.2 W (PoE) 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
4MP Camera	DH-IPC-HDBW7442E1-Z4-X	4MP IR Dome WizMind Network Camera
	IPC-HDBW7442E1-Z4-X	4MP 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



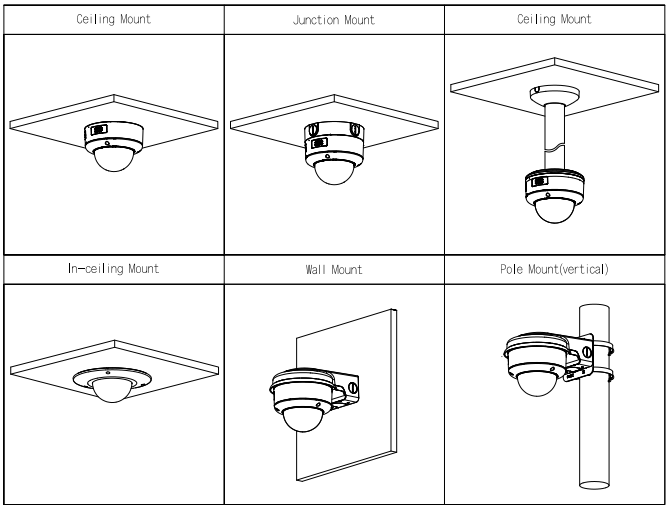
PFM320D
12 VDC 2A Power Adapter



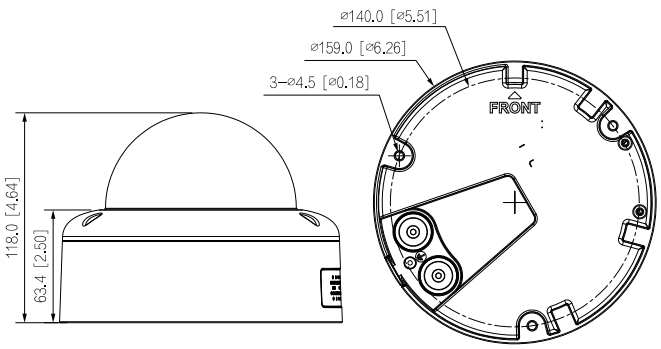
PFM900-E
Integrated Mount Tester



TF-P100
MicroSD Memory Card



Dimensions (mm[inch])



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