DH-IPC-HDBW7842E1-Z-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 ISP 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-ISP

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

Self-Learning

Empowered by deep learning technology, the device recognizes different types of targets and their statuses through learning and analyzing target features to detect targets and filter out false alarms.

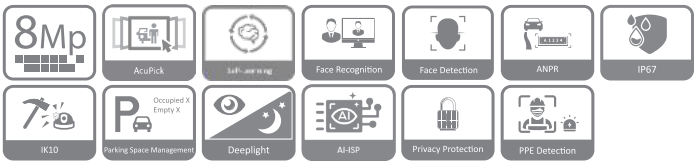
AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

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.

- 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 40 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. 1 TB 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).
- EPTZ.



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.

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	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	0.0006 lux@F1.2 (Color, 30 IRE) 0.0003 lux@F1.2 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 40 m (131.23 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	ϕ16
Focal Length	2.7 mm–12 mm
Max. Aperture	F1.2
Field of View	H: 105°–48°; V: 55°–27°; D: 124°–55°
Iris Control	Auto
Iris Control Type	P-Iris
Close Focus Distance	1.8 m (5.91 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	87.6 m (287.40 ft)	35 m (114.93 ft)	17.5 m (57.41 ft)	8.8 m (28.87 ft)
	T	186.6 m (612.20 ft)	74.6 m (244.20 ft)	37.3 m (122.38 ft)	18.7 m (61.35 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

EPTZ	Yes
IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle, animal and human); loitering detection, people gathering, parking detection, privacy protection. Supports long- distance mode. Supports self-learning, it filters out false alarms.
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, safety helmet, cap, face mask, apron, gloves, shoe covers, boots, safety vest, and seatbelt). Supports self-learning, it detects the different colors and styles of workwear. Supports 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
Acupick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people, animal,and motor vehicles, and search through live and recorded videos to quickly locate targets.

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: Main Stream: 3840 × 2160@(1–25/30 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) High Frame Rate: Main Stream: 3840 × 2160@(1–50/60 fps) 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.265: 12 kbps–12800 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
LDC	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; Profile M; Auto Register
Interoperability	ONVIF (Profile S/Profile G/Profile T/ Profile M); CGI; P2P
User/Host	20 (Total bandwidth: 340 M)
Storage	FTP;SFTP; Micro SD card (support max. 1 TB); 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
Security	Trusted execution; Digest; Security logs; WSSE; Account lockout; Syslog; 802.1x; IP/MAC filtering; HTTPS; Trusted upgrade; Trusted boot; 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)
Anti-corrosion Level	Moderate Protection(Only supported by-ATC model) *The products feature high-grade anti-corrosion protection, making them well-suited for environments with standard corrosion resistance requirements. They perform reliably from 2 km (1.24 mi) and above in coastal areas and in locations prone to acid rain exposure.

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-Z-X	8MP IR Dome WizMind Network Camera
	IPC-HDBW7842E1-Z-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



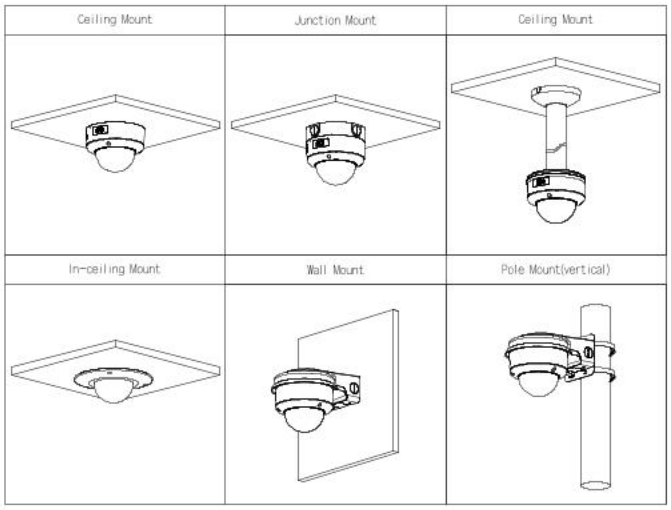
PFM320D
12 VDC 2A Power Adapter



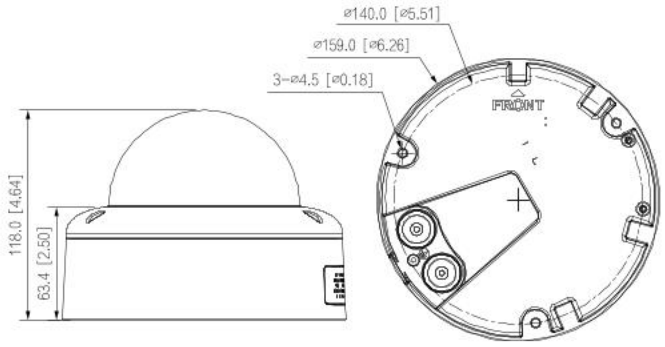
PFM900-E
Integrated Mount Tester



TF-P100
MicroSD Memory Card



Dimensions (mm[inch])



Rev 002.000 © 2025 Dahua. All rights reserved. Design and specifications are subject to change without notice.
The images, specifications and information mentioned in the document are only for reference, and might differ from the actual product.