IPC-HFW7442H-Z-X

4MP Vari-focal Bullet Network Camera

ONVIF
GMST

This camera is driven by deep learning algorithms, the network camera supports various intelligent functions, meeting the requirements of a wide variety of scenes. The camera can accurately recognize people, motor and non-motor vehicles, faces. It also supports PPE detection, smart sound detection, privacy protection, ANPR, parking space management, and enabling 2 intelligent functions at the same time. The camera adopts advanced image processing AI-Powered Image technology, has the deep light 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).

· 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 60 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.
· Deep learning algorithm, it supports: face recognition, face detection, IVS, people counting, video metadata, PPE Detection, parking space management and ANPR, etc.
· Alarm: 3 in, 2 out; audio: 1 in, 1 out; RS-485, BNC;
· Supports max. 512 G Micro SD card.
· 12 VDC/24 VAC/PoE+/ePoE power supply, 12 VDC power output, max. current 165 mA and peak current is 700 mA, easy for instalation.
· IP67 and IK10 protection.

Function

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, the 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, the 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.
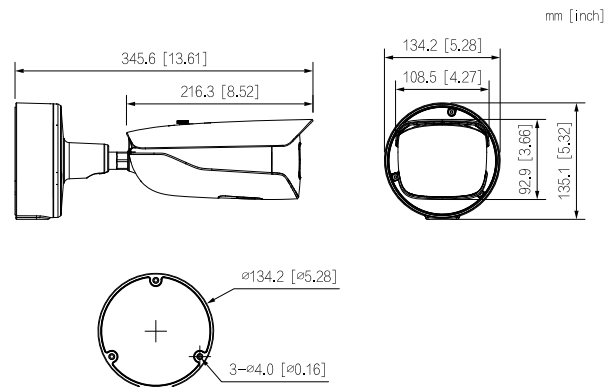
Privacy Protection

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

Protecton (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 unstable voltage.

mm [inch]

345.6 [13.61]
216.3 [8.52]
134.2 [5.28]
108.5 [4.27]
92.9 [3.66]
135.1 [5.32]

⌀134.2 [⌀5.28]
3-⌀4.0 [⌀0.16]

CE FC
ISO 9001 QUALITY ASSURANCE MANAGEMENT
ISO 14001 ENVIRONMENTAL MANAGEMENT

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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	0.0005 lux@F1.2 (Color, 30 IRE) 0.0002 lux@F1.2 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56dB
Illumination Distance	60 m (196.85 ft) (IR LED)
Illuminator On/Off Control	Auto
Illuminator Number	4 (IR LED)
Angle Adjustment	Pan: 0-360° Tilt: 0-90° Rotation: 0-360°

Lens

Lens Type	Motorized vari-focal
Lens Mount	φ16
Focal Length	2.7 mm–12 mm
Max. Aperture	F1.2
Field of View	H: 107°–48°; V: 55°–27°; D: 130°–56°
Iris Control	Auto
Iris Control Type	P-Iris
Close Focus Distance	1.8 m (5.91 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	60.4 m (198.16 ft)	24.2 m (79.39 ft)	12.1 m (39.70 ft)	6.0 m (19.69 ft)
	T	128.7 m (422.24 ft)	51.5 m (168.96 ft)	25.7 m (84.32 ft)	12.9 m (42.32 ft)

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 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. 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

IPC-HFW7442H-Z-X

4MP Vari-focal Bullet Network Camera

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

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
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	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

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; UL 50E NEMA Type 4X

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)

IPC-HFW7442H-Z-X

4MP Vari-focal Bullet Network Camera

Power

Power Supply	12 VDC/24 VAC/PoE+ (802.3at)/ePoE
Power Consumption	Basic: 7.3 W (12 VDC); 10.2 W (24 VAC); 10.6 W (PoE) Max. (ICR switch + IR intensity): 18.2 W (12 VDC); 24.2 W (24 VAC); 24.3 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	345.6 mm × 134.2 mm × 135.1 mm (13.61" × 5.28" × 5.32") (L × W × H)
Net Weight	1.65 kg (3.64 lb)
Gross Weight	2.73 kg (6.02 lb)

* Note : The model IPC-HFW7442H-Z-X is the OEM version of the Dahua model DHI-IPC-HFW7442H-Z-X