DH-IPC-HFE8449F-Z-PV-AC

4MP Explosion-proof Active Deterrence Bullet 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

Equipped with starlight solution and large aperture lens, Dahua WizMind Explosion-Proof series network camera provides better image effects. With advanced deep learning algorithm, the camera supports various intelligent functions, such as perimeter protection, face detection and people counting, which improve the accuracy of video analysis. With certification of IECEx and ATEX, it is applicable to some specific energy industries such as coal, petroleum, and chemical industry.

Functions

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.

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.

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.

WDR

With advanced Wide Dynamic Range (WDR) technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 ×1520)@25/30 fps.
- Built-in IR LED and warm light, the max. IR distance is 50 m and the max. warm light distance is 50 m.
- ROI, SMART H.264+/H.265+, AI H.264/H.265, flexible coding, applicable to various bandwidth and storage environments.
- Supports the AFSA(Anti-flicker Self-adaption) function, which automatically eliminates flicker.
- With deep learning algorithm, it supports: Face Detection, IVS, People Counting, ANPR, PPE Detection and Heat Map, etc.
- SMD 4.0 and AI SSA.
- Supports sound and light alarms, triggering a sound and flashing light when an alarm is triggered.
- Features one-tap disarming to synchronously turn off alarm linkages such as sound and light alarms, and the reception of emails.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; RS-485; supports max. 512 G Micro SD card.
- The built-in dual Mic utilizes Dahua's noise reduction algorithms for adaptive noise cancellation.
- Built-in Hi-Fi large-diameter speaker.
- Supports two-way talk.
- Glass heating: Quickly removes water, ice, snow and mist from the glass to keep images clear.
- 100-240 VAC/PoE power supply, easy for installation.
- IP68 protection.
- Constructed from aluminum alloy with a high anti-corrosion coating, certified to NEMA 4X standards for corrosion resistance.
- ATEX and IECEx Certification.
- Explosion-proof mark: II 2 G Ex db IIC T6 Gb and II 2 D Ex tb IIIC T80°C Db.

Protection (IP68, Wide Voltage)

IP68: The camera passes a series of strict test on dust and soak. With the water-proof enclosure, the camera can work normally after soaking in 1.2 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.

SMD 4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms. With an AI NVR, Quick Pick technology becomes available, allowing you to easily search for and pick out human and vehicle targets from SMD event videos, prioritizing the highest matches.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	512 MB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.001 lux@F1.2 (Color, 30 IRE) 0.0002 lux@F1.2 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 50 m (164.04 ft) (IR) Up to 50 m (164.04 ft) (Warm light)
Illuminator On/Off Control	Auto;Manual
Illuminator Number	2 (IR LED); 2 (Warm light)

Lens

Lens Type	Motorized vari-focal				
Lens Mount	ϕ16				
Focal Length	2.7 mm–12 mm				
Max. Aperture	F1.2				
Field of View	H: 96°–48°; V: 51°–27°; D: 114°–56°				
Iris Control	Auto				
Close Focus Distance	0.16 m (0.53 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	67.6 m (221.78 ft)	27.0 m (88.58 ft)	13.5 m (44.29 ft)	6.8 m (22.31 ft)
	T	128.7 m (425.52 ft)	51.5 m (168.96 ft)	25.7 m (84.32 ft)	12.9 m (42.32 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.
SMD	SMD 4.0
AcuPick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.
AI SSA	Adopt deep learning algorithms to adjust the parameters of the image to suit the conditions.
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.
PPE Detection	Triggers alarms when the detected object matches or does not match all of the configured attributes (helmets, hats, workwear, masks, gloves, shoe covers, shoes, safety vests) ，Supports self-learning, it detects the different colors and styles of workwear.
People Counting	Tripwire people counting, generating and exporting report (day/week/month/year); people counting in area; queue management; 4 rules can be set for tripwire, people counting in area and queue management.
Heat Map	Yes
ANPR	ANPR, track, priority, snapshot. Vehicle attributes: License plate, vehicle type, vehicle color. Supports 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 60 km/h.
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 sub stream)
Smart Codec	Smart H.265+; Smart H.264+
AI Coding	AI H.265; AI H.264
Video Frame Rate	Main stream: 2688 × 1520@(1–25/30 fps) sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) third stream: 1920 × 1080@(1–25/30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.
Streaming Capability	3 streams
Resolution	4M (2688 × 1520/2560 × 1440); 3M (2048 × 1536/2304 × 1296); 1080p (1920 × 1080); 1.3M (1920 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	VBR;CBR;ABR
Video Bit Rate	H.264: 3 kbps–16384 kbps; H.265: 3 kbps–16384 kbps
Day/Night	Color/B/W
BLC	Yes
HLC	Yes
WDR	120 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
Smart Dual Light	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

Built-in MIC	Yes, built-in dual Mic
Built-in Speaker	Yes, built-in speaker
Audio Compression	PCM; G.711a; G.711Mu; 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; scene changing; audio detection; external alarm; face detection; security exception; ANPR; PPE; SMD; people counting in area; stay detection; people counting; people number error detection; queue people number alarm; queue time alarm

Network

Network Port	RJ-45 (10/100 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 & Profile M); CGI
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 512 GB); NAS
Browser	IE: IE 11 and later; Chrome: Chrome 45 and later; Firefox: Firefox 46 and later; Safari: Safari 12 and later; Edge: Edge
Management Software	Smart PSS Lite; DSS; DMSS; DoLynk Care
Mobile Client	iOS;Android
Security	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;Session security;Security warning

Function

Defog (Glass Heating)	Yes

Certification

Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU; ATEX: TÜV 24 ATEX 9121 X; IECEx: IECEx TUR 24.0021X; UL 50E NEMA Type 4X

Port

RS-485	1 (baud rate range: 1200 bps–115200 bps)
Audio Input	1 channel (terminal)
Audio Output	1 channel (terminal)
Alarm Input	1 channel in: wet contact, 5 mA 3–5 VDC
Alarm Output	1 channel out: wet contact, 300 mA 12 VDC

Power

Power Supply	100–240 VAC; 50/60 Hz; PoE (802.3at)
Power Consumption	Basic: 4.2 W (100–240 VAC); 6.3 W (PoE); Max.: 12.18 W (100–240 VAC); 16.1 W (PoE) (H.265+ intelligence on + WDR + IR on + auto focus)

Environment

Operating Temperature	–30 °C to +60 °C (–22 °F to +140 °F)
Operating Humidity	≤95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	≤95% (RH), non-condensing
Protection	IP68

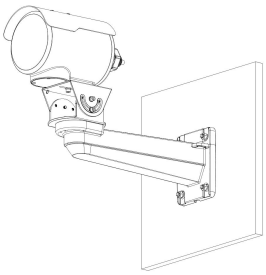
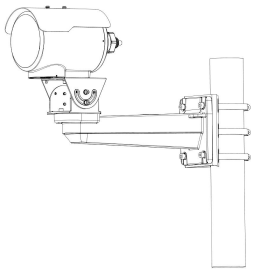
Structure

Casing Material	Metal
Product Dimensions	276.5 mm × 154.5 mm × 173 mm (10.89" × 6.08" × 6.81") (L × W × H)
Net Weight	4.19 kg (9.24 lb)
Gross Weight	4.86 kg (10.71 lb)

Ordering Information

Type	Model	Description
EXPLOSION-PROOF CAMERA	DH-IPC-HFE8449F-Z-PV-AC	4MP Explosion-proof Active Deterrence Bullet WizMind Network Camera

Type	Model	Description
Accessories (Optional)	DH-PFB7716WA-SG-EX	Anti-corrosion Wall Mount Bracket
	ZANXG-1.0	Explosion-proof flexible conduit-M25-316L-1.0
	ZAEX02	Explosion-proof Cable Gland
	CZ300	Explosion-proof Control Box
	DH-PFA155A	Anti-corrosion Pole mount bracket
	DH-PFA160A-SG	Anti-corrosion Universal Joint
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/512GB	MicroSD Card

Wall Mount	Pole Mount
	

Accessories

Optional:

CZ300
Explosion-proof Control Box

DH-PFA155A
Anti-corrosion Pole mount bracket

DH-PFA160A-SG
Anti-corrosion Universal Joint

DH-PFB7716WA-SG-EX
Anti-corrosion Wall Mount Bracket

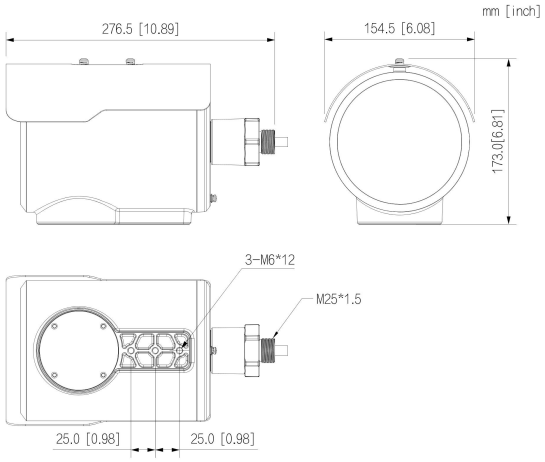
DHI-TF-P100/512GB
MicroSD Card

PFM900-E
Integrated Mount Tester

ZAEX02
Explosion-proof Cable Gland

ZANXG-1.0
Explosion-proof flexible conduit-M25-316L-1.0

Dimensions (mm[inch])



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