DH-IPC-HDBW7442H-Z

4MP AI IR Dome Network Camera

System Overview

With Hisilicon advanced chip, image sensor and deep learning algorithm, Dahua Ultra-AI series network camera supports various intelligent functions and meet customers' requirements in different scenes. Adopting excellent image processing technology, Dahua AI network camera performs good in WD and low illuminance environment. For intelligent functions, it supports face detection, people counting, perimeter protection, video structurization (vehicle, non-motor vehicle, people detection and snapshot), and ANPR. The camera provides better solution to image processing and intelligent application.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

People Counting

People counting adopts deep learning algorithm to detect human body target, and track the target in real time, which realizes independent statistics of entry number and exit number. And the accuracy rate is up to 98%.

Video Structurization

Video structurization adopts deep learning algorithm to detect vehicle, non-motor vehicle and people in the image, track the target in real time, and then snapshot the target and extract attributes.

Ultra WDR

Standard WDR/HDR camera can provide 120dB dynamic range. However, for some scenes with wider contrast range, 120dB is slightly insufficient. By adopting the latest technology, Dahua Cameras can provide an amazing dynamic range up to 140dB.

Smart H.265+

Smart H.265+ is an effective coding method based on H.265. Comparing with H.265, smart H.265+ improves efficiency more than 70% through auto scene judgement, dynamic ROI and dynamic GOP. Smart H.265+ provides better solution to save storage, bandwidth and power consumption.

· 4MP, 1/1.8" CMOS image sensor, low illuminance, high image definition

·Max outputs 4MP (2688 × 1520) @ 25 fps/30 fps, meets high frame rate requirement, and max. supports 50 fps/60 fps

· H.256 coding, high compression ration, low bit rate

· Max IR distance: 40 m (131.23 ft)

· Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking

· ROI, SVC, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments

· Defog detection, intrusion, tripwire, abandoned/missing object, scene changing, loitering detection, people gathering, fast moving, parking detection, audio detection, external alarm, face detection, people counting, ANPR, video metadata (Snapshot of vehicle, non-motor vehicle, and person detection, and attributes recognition)

· Alarm: 3 in, 2 out, audio:in, out, RS-485, BNC, 256 G SD card, built-in ports, without cables

· 24V AC/POE/12V DC power support, 12V power output and the max current 165mA

· Five streams for three-channel HD video

· IP67, IK10 protection grade

EPOE

Dahua ePoE technology, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

Perimeter Protection

Dahua's Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

Technical Specification

Camera

Image Sensor	1/1.8" 4Megapixel progressive CMOS
Effective Pixels	2688 (H) × 1520 (V)
ROM	4 GB
RAM	2 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100000 s
Min. Illumination	0.001 Lux@F1.2
IR Distance	Distance up to 40 m (131.23 ft)
IR On/Off Control	Auto
IR LEDs Number	3 (IR LEDs)
Pan/Tilt/Rotation Range	Horizontal: 0°–355° Vertical: 0°–80° Rotation: 0°–355°

Lens

Lens Type	Electric zoom
Mount Type	Module interface
Focal Length	2.7mm-12mm
Max. Aperture	F1.2
Field of View	Horizontal:111° (W)–47° (T) Vertical: 59° (W)–26° (T) Diagonal: 135° (W)–51° (T)
Optical Zoom	4 times
Iris Type	Auto aperture
Close Focus Distance	w: 1 m (W: 3.28 ft) T: 2.5 m (T: 8.20ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	60.1 m (197.18 ft)	24 m (78.74 ft)	12 m (39.37 ft)	6 m (19.69 ft)
	T	128.6 m (421.92 ft)	51.4 m (168.64 ft)	25.7 m (84.31 ft)	12.8 m (41.99 ft)

Smart event

General IVS Analytics	Abandoned object, moving object

Professional, intelligent

Perimeter Protection	Tripwire, intrusion, fast moving, loitering detection, parking detection and people gathering.
Face Snapshot	Yes
Face Detection	Face detection, track, priority, snapshot, face enhancement, face exposure, face attribute extract, 6 attributes and 8 expressions: Gender, age, glasses, expressions (anger, sadness, disgust, fear, surprise, calm, happiness and confusion), mask, beard Face matting setting: face, single inch photo Three snapshot methods: real-time snapshot, priority snapshot, quality priority Face angle filter Priority time setting
People Counting	Count the entry number and exit number , display and output daily/monthly/annual report Count people in area, display and output daily/monthly/annual report
ANPR	ANPR, track, priority, snapshot Vehicle attributes: license plate, vehicle type, vehicle color, vehicle brand Other attributes: sun visor, seat belt, smoking, phoning, in-car accessories, annual vehicle inspection mark
Video Structurization	Vehicle detection, non-motor vehicle detection, personnel detection, face detection, track, snapshot, optimization, report high quality picture, vehicle attributes (license plate, vehicle type, vehicle color, and vehicle brand), other attributes (sun visor, seatbelt, smoking, phoning, in-car accessories, and annual vehicle inspection mark), non-motor vehicle attributes: vehicle type, vehicle color,driver number, cloth type, cloth color, and hat), personnel attribute (cloth type, trousers type, cloth color, trousers color, knapsack, and gender), face attribute (gender, age , glasses, mask, and beard)
Intelligent 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
Smart Codec	H.264: Yes H.265: Yes
Video Frame Rate	Main Stream: 2688 × 1520 (1–50/60 fps) sub stream 1: 704 × 576 (1–25/30 fps) sub stream 2: 1920 × 1080 (1–25/30 fps) sub stream 3: 1920 × 1080 (1–25/30 fps) sub stream 4: 704 × 576 (1–25/30 fps)
Stream Capability	5 streams
Resolution	4M (2688 × 1520), 3M (2304 × 1296), 1080p (1920 × 1080), 1.3M (1280 × 960), 720p (1280 × 720), D1 (704 × 576/704 × 480), VGA (640 × 480), CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 Kbps–10240 Kbps H.265: 12 Kbps–10240 Kbps
Day/Night	ICR switch
BLC	Yes
WDR	140 dB
White Balance	Auto/natural/street lamp/outdoor/manual/regional custom
Gain Control	Manual/Auto
Noise Reduction	3D DNR
Motion Detection	Yes
Region of Interest(RoI)	Yes (4 areas)
Electronic Image Stabilization(EIS)	Yes
Smart IR	Yes
Defog	Yes
Image Rotation	0°/90°/180°/270° (Supports 90°/270° with 1080p resolution or below.)
Mirror	Yes
Privacy Masking	4 areas

Audio

Audio Compression	G.711a, G.711Mu, G726, AAC

Network

Network	RJ-45 (100/1000 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP
Interoperability	ONVIF(Profile S/Profile G); CGI; P2P; RTMP
Scene Self-adaptation	Yes
User/Host	20
Edge Storage	FTP; Micro SD card (256 G); NAS; SFTP
Browser	IE: Versions later than IE9 Google: Versions later than Chrome 42, Firefox: Versions later than Firefox 48.0.2,
Management Software	Smart PSS, DSS PRO, NVR, IVSS
Mobile Phone	IOS, Android

Certification

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Port

RS-485	1 (Bit rate: 1200 bps–115200 bps)
Audio Input	Audio Interface: 1/1 channel In/Out
Audio Output	
Video Port	1 Channel CVBS (2 pin white socket at interval of 1.25 mm , with BNC cable)
Alarm Input	3 channel In: 5mA 5V DC 2 channel Out: 1000mA 30V DC/500mA 50V AC
Alarm Output	

Power

Power Supply	12V DC/24V AC/POE
Power Consumption	Basic power consumption: 5.4W (12V DC); 5W (24V AC active power); 4.9W (POE); Max power consumption (ICR switch, and IR full intensity): 16.7W (12V DC); 15.7W (24V AC active power); 15.6W (POE);

Environment

Operating Temperature	-40°C to +60°C (-40°F to +140°F)
Storage Temperature	≤95%
Storage Temperature	-40°C to +60°C (-40°F to +140°F)
Ingress Protection	IP67, IK10

Structure

Dimensions	129.1 mm × Φ157.9 mm (5.08" × Φ6.22") (L × W × H)
Box Dimensions	212 mm × 212 mm × 200 mm (8.35" × 8.35" × 7.87") (L × W × H)
Gross Weight	1600 g (3.53 lb)
Installation	ceiling-mounted, side-mounted, and pole-mounted

Ordering Information

Type	Part Number	Description
4MP Camera	DH-IPC-HDBW7442HP-Z	4MP AI IR Dome Network Camera
	DH-IPC-HDBW7442HN-Z	4MP AI IR Dome Network Camera
	IPC-HDBW7442HP-Z	4MP AI IR Dome Network Camera
	IPC-HDBW7442HN-Z	4MP AI IR Dome Network Camera
Accessories	PFA773	Wall Mount
	PFB210W	Pole Mount
	PFA152-E	Pole Mount
	PFA101	Ceiling Mount
	PFB300C	Ceiling Mount

Accessories

Optional:

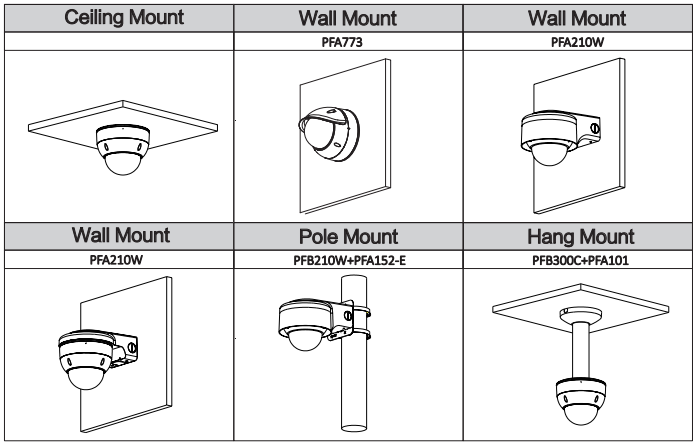
PFA773
Wall Mount

PFB210W
Pole Mount

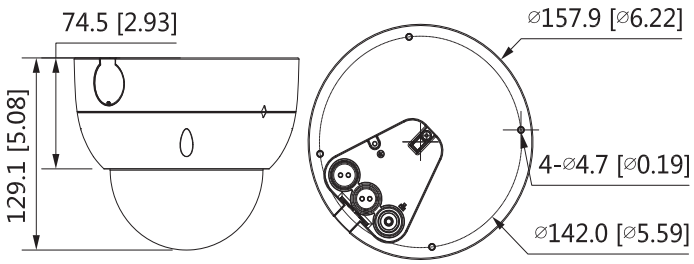
PFA152-E
Pole Mount

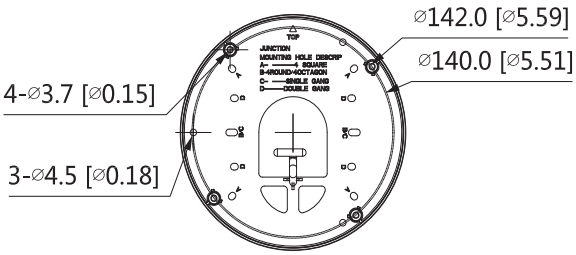
PFA101
Ceiling Mount

PFB300C
Ceiling Mount



Dimensions (mm[inch])





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