

DH-IPC-HDBW7442H-Z4FR

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

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.

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

- 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.266 coding, high compression ration, low bit rate
- Max IR distance: 80 m (262.5ft)
- 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 recognition, people counting, video metadata (Snapshot of vehicle, non-motor vehicle, and person detection, and attributes recognition), privacy protection
- 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



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.

Face Recognition

Once facial features are extracted from captured faces, they are stored in a database where they can be easily searched and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 200,000 facial images, helping the camera achieve real-time face capture and comparison.

Technical Specification						
Camera						
Image Sensor		1/1.8" 4Megapixel progressive CMOS				
Effective Pixels		2688 (H) × 1520 (V)				
ROM		16 GB				
RAM		2 GB				
Scanning System		Progressive				
Electronic Shutter Speed		Auto/Manual 1/3 s–1/100000 s				
Min. Illumination		0.001 Lux@F1.6				
IR Distance		Distance up to 80 m (262.5 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		8 mm–32 mm				
Max. Aperture		F1.6				
Field of View		Horizontal: 40° (W)–15° (T) Vertical: 23° (W)–9° (T) Diagonal: 46° (W)–18° (T)				
Optical Zoom		4 times				
Iris Type		Auto aperture				
Close Focus Distance		W: 2.5 m (W: 8.20 ft) T: 6 m (T: 19.68 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify	
	W	151 m (495.4 ft)	60.7 m (199.1 ft)	30.3 m (99.4 ft)	15.1 m (49.5 ft)	
	T	400 m (1312.3 ft)	160 m (524.9 ft)	80 m (262.5 ft)	40 m (131.2 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 Recognition		Face recognition, 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 Two snapshot strategies: priority snapshot, recognition Face angle filter Priority time setting Management of 5 group face libraries Single person register and person register in batch Face recognition and similarity setting Max supports face contrast in face library with 200,000 faces				
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				
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(Rol)		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
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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
Alarm Output	2 channel Out: 1000mA 30V DC/500mA 50V AC

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-Z4FR	4MP AI IR Dome Network Camera
	DH-IPC-HDBW7442HN-Z4FR	4MP AI IR Dome Network Camera
	IPC-HDBW7442HP-Z4FR	4MP AI IR Dome Network Camera
	IPC-HDBW7442HN-Z4FR	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

Ceiling Mount	Wall Mount	Wall Mount
	PFA773	PFA210W
Wall Mount	Pole Mount	Hang Mount
PFA210W	PFB210W+PFA152-E	PFB300C+PFA101

Dimensions (mm[inch])

