Dahua TECHNOLOGY

DH-IPC-HFW7442H-Z4

4MP AI IR Bullet Network Camera

ePoE

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, personnel 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 attribute.

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)@25fps, meets high frame rate requirement, and max. support 60fps
·H.264&H.265 coding, high compression ration
·Wide dynamic, day/night, 3D noise reduction, AWB, HLC, BLC
·ROI, SVC, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments
·With deep learning algorithm, it supports people counting, face detection, perimeter protection, ANPR and video metadata.
·24V AC/POE/ 12V DC power support
·Five streams for three-channel HD video
·IP67, IK10 protection grade

Starlight | 4Mp | H. 265+ | WDR | People Counting | ANPR | Face Capture | Metadata | IP67

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.

Onvif

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@F1.6 (Color, 1/3 s, 30IRE)
IR Distance	Distance up to 120m (393.70 ft)
IR On/Off Control	Auto
IR LEDs Number	4 (IR LEDs)
Pan/Tilt/Rotation Range	Horizontal: 0˚–360˚ Vertical: 0˚–90˚ Rotation: 0˚–360˚

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 (8.20 ft) T: 6 m (19.69 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	151 m (495.4 ft)	60.7 m (199.15 ft)	30.3 m (99.41 ft)	15.1 m (49.54 ft)
	T	400 m (1312.34 ft)	160 m (524.93 ft)	80 m (262.47 ft)	40 m (131.23 ft)

Smart event

General IVS Analytics	Abandoned object, moving object

Professional, intelligent

Perimeter Protection	Tripwire, intrusion (Recognition of vehicle and people), 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

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)
People Counting	People counting (count the entry number, exit number and pass number), display and output daily/monthly/annual statistics, No. in area
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), 1080 (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
Noise Reduction	3DNR
Region of Interest(RoI)	Yes (4 areas)
Electronic Image Stabilization(EIS)	Yes
Smart IR	Yes (Adjust by user)
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	
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	<17.3W

Environment

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

Structure

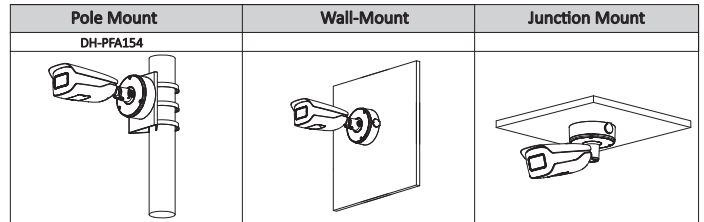| Casing	Metal + Plastic
Dimensions	340.1 mm × 108.5 mm × 92.9 mm (13.39" × 4.27" × 3.66") (L × W × H)
Net Weight	1.6 kg (3.53 lb)
Gross Weight	2.4 kg (5.29 lb)

Ordering Information

Type	Part Number	Description
4MP Camera	DH-IPC-HFW7442HP-Z4	4MP AI IR Bullet Network Camera
	IPC-HFW7442HP-Z4	4MP AI IR Bullet Network Camera
	DH-IPC-HFW7442HN-Z4	4MP AI IR Bullet Network Camera
	IPC-HFW7442HN-Z4	4MP AI IR Bullet Network Camera
Accessories (optional)	PFA154	Pole Mount

Accessories

Optional:

PFA154
Pole Mount

Pole Mount	Wall-Mount	Junction Mount
DH-PFA154		

Dimensions (mm/inch)

340.1 [13.39]

138.3 [5.44]
108.5 [4.27]
92.9 [3.66]
134.0 [5.27]

⌀134.0 [⌀5.27]
⌀118.0 [⌀4.65]
3-⌀4.4 [⌀0.17]

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