alhua TECHNOLOGY

DH-IPC-HDEW8441R-Z

4 MP Explosion Proof IR Dome WizMind Network Camera

WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, 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

Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

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.

Starlight

With advanced image processing technology and optical technology, Dahua Starlight technology can provide clear colorful video in the environment of low illuminance. It widely applies to various environments of low illuminance.

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.

- 4 MP, 1/2.7" CMOS image sensor, low illuminance, high image definition
- Outputs max. 4 MP (2688 × 1520) @25/30 fps
- H.265 codec, high compression rate, ultra-low bit rate
- Built-in efficient IR illuminator, and the max. Illumination distance: 50 m
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D NR , HLC, BLC, digital watermarking, applicable to various monitoring scenes
- Face detection: Track, snapshot, snapshot optimization, optimal face snapshot upload, face enhancement, face exposure, and face attributes.
- People counting: People counting in area, queue management, and entered/exited people counting; generating and exporting report (day/month/year).
- Intelligent detection: Perimeter Protection, Face Detection , People Counting
- Alarm: 3 in, 2 out; audio: 1 in, 1 out; 485; supports max. 256 G Micro SD card
- 12 VDC/PoE power supply, easy for installation
- IP68, IK10 protection
- Explosion-proof mark II 2 G Ex db IIC T6/T5 Gb; II 2 D Ex tb IIIC T80°C/T100°C Db
- 8 m cable
- 316L stainless steel housing
- ATEX and IECEx Certifacation
- SMD 3.0

4Mp	Starlight	Smart Codec	WDR	Face Detection	IP68

People Counting

With deep learning algorithm, Dahua People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs reports to meet your requirements.

Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

Technical Specification

Camera

Image Sensor	1/2.7"4Megapixel progressive CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	128 MB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.005 Lux@F1.5 (Color, 30 IRE) 0.0005 Lux@F1.5 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	> 56 dB
Illumination Distance	50 m (164.0 ft) (IR LED)
Illuminator On/Off Control	Auto/Manual
Illuminator Number	2 (IR LED)
Pan/Tilt/Rotation Range	Pan: 0°–355° Tilt: 0°–75° Rotation: 0°–355°

Lens

Lens Type	Motorized vari-focal
Mount Type	φ14
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Field of View	Horizontal: 100.4°–30.2° Vertical: 53.4°–17.6° Diagonal: 120°–34.5°
Iris Type	Fixed
Close Focus Distance	0.8 m (2.6 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	64.0 m (210.0 ft)	25.6 m (84.0 ft)	12.8 m (42.0 ft)	6.4 m (21.0 ft)
	T	210.0 m (689.0 ft)	84.0 m (275.6 ft)	42.0 m (137.8 ft)	21.0 m (68.9 ft)

Smart Event

IVS	Abandoned object; missing object
Heat Map	Yes

Professional, intelligent

IVS (Perimeter Protection)	Tripwire, intrusion, fast moving (the three functions support the classification and accurate detection of vehicle and human), parking detection, loitering detection, people gathering
SMD 3.0	Less false alarm, longer detection distance
Face Detection	Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure;face attributes extraction including 6 attributes (gender, age, glasses, expressions, mask, and beard) and 8 expressions (angry, sad, disgusted, scared, surprised, calm, happy, confused);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

People Counting	Supports 4 rules to count the number of people entering and exiting separately; generating and exporting report (day/month/year); 4 rules can be set for people counting in area and queue management, and it will trigger alarm linkage when the number of people queued or queue time exceeds the threshold.
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 (only supported by the sub stream)
Smart Codec	Smart H.265+/Smart H.264+
Video Frame Rate	Main stream: 2688 × 1520 @(1 fps–25/30 fps) 1920 × 1080 @(1 fps–50/60 fps) Sub stream: 704 × 576 @1 fps–50 fps/704 × 480 @1fps–60 fps Third stream: 1920 × 1080 @(1 fps–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.
Stream Capability	3 streams
Resolution	4M (2688 × 1520); 4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 576/640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–8192 kbps H.265: 19 kbps–8192 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
Scene Self-adaptation	Yes
White Balance	Auto/natural/street lamp/outdoor/manual/regional custom
Gain Control	Auto/Manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Electronic Image Stabilization (EIS)	Yes
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

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; G.723

Alarm

Alarm Event	No SD card; SD card full; SD card error; SD card service life warning (supported by Dahua card); 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; voltage detection; defocus detection; external alarm; face detection; people counting in area; stay alarm; people counting; people No. exception; safety exception

Network

Network	RJ-45 (10/100 Base-T)
SDK and API	Yes
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
Protocol	IPv4; IPv6; HTTP; HTTPS; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; 802.1x; SNMP
Interoperability	ONVIF (Profile S/Profile G/Profile T); CGI; Milestone; Genetec; P2P
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 256 G); NAS
Browser	IE: IE8, IE9, IE11 Chrome Firefox
Management Software	Smart PSS, DSS, DMSS
Mobile Phone	IOS; Android

Certifications

Certification	ATEX: EN 60079-0/EN 60079-1/EN 60079-31 IECEx : IEC 60079-0/IEC 60079-1/IEC 60079-31 CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B

Explosion-proof Marking	ATEX : II2 G D
	    Ex db IIC T6/T5 Gb
	    Ex tb IIIC T80 °C/T100 °C Db
	IECEx : Ex db IIC T6/T5 Gb
	    Ex tb IIIC T80 °C/T100 °C Db

Certificate	TÜV 20 ATEX 8579 X IECEx TUR 20.0059X

Port

RS-485	1 (baud rate range: 1200 bps–115200 bps)
Audio Input	1 channel (terminal)
Audio Output	1 channel (terminal)
Alarm Input	3 channel in: 5 mA 3 V–5 VDC
Alarm Output	2 channel out: 300 mA 12 VDC

Power

Power Supply	12 VDC/PoE (802.3af)

Power Consumption	Basic power consumption: 2.5 W (12 VDC); 3W (PoE) Max. power consumption (H.265 + IR + intelligent function + WDR + vari-focal): 6.9 W (12 VDC); 8.2 W (PoE)

Environment

Operating Conditions	T5/T100 °C : –40 °C ≤ Tamb ≤ +60 °C (–40 °F to +140 °F) T6/T80 °C :–40 °C ≤ Tamb ≤ +55 °C (–40 °F to +131 °F)
Storage Temperature	–40 °C to +60 °C (–40 °F to + 140 °F)
Protection Grade	IP68; IK10

Structure

Casing	Metal (316L stainless steel) + plastic
Dimensions	219.5 mm × Φ165 mm × 118.2 mm (8.64" × Φ6.5" × 4.65") (L × W × H)
Net Weight	4.5 kg (9.9 lb)
Gross Weight	5.3 kg (11.7 lb)

Ordering Information

Type	Model	Description
4 MP Camera	DH-IPC-HDEW8441R-Z	4 MP Explosion Proof IR Dome WizMind Network Camera, PAL
	IPC-HDEW8441R-Z	4 MP Explosion Proof IR Dome WizMind Network Camera, PAL
Accessories	PFB714W-316	Wall Mount
	PFM321D	12 VDC/1A Power Adapter
	DH-CZ300	Explosion-proof Junction Box
	ZAEX02	Explosion-proof Stuffing Box
	ZANXG-1.5	Explosion-proof Flexible Tube

Accessories

Optional:

PFB714W-316
Wall Mount

PFM321D
12 VDC/1A
Power Adapter

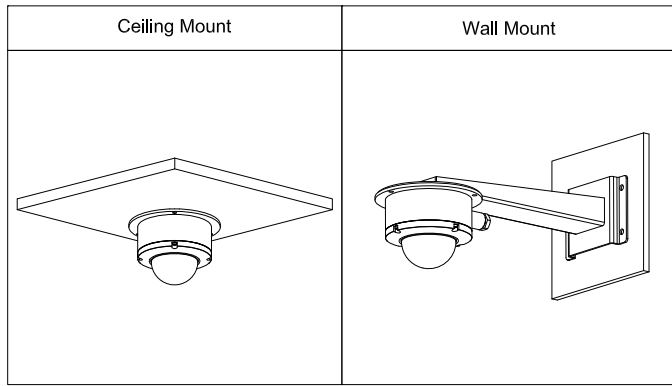

DH-CZ300
Explosion-proof
Junction Box

ZAEX02
Explosion-proof
Stuffing Box

ZANXG-1.5
Explosion-proof
Flexible Tube

Ceiling Mount	Wall Mount

Dimensions (mm[inch])

219.5 [8.64]

118.2 [4.65]

76 [2.99]

∅165.0 [∅6.50]

3−∅7 [∅0.28]

∅150 [∅5.90]