DH-ECA3A1404-HNR-XB

4MP Explosion Proof IR Bullet WizMind Network Camera

WizMind

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

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.

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.

The parameters and datasheets below can only be applied to the latest generation of products released in 2023.

· 4-MP 1/2.8" 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 IR LED, and the max. illumination distance is 50 m.

· ROI, SMART H.264+/H.265+, AI 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.

· With deep learning algorithm, it supports: face detection, perimeter protection, people counting, heat map, SMD4.0.

· Alarm: 1 in, 1 out; audio: 1 in, 1 out; RS-485; supports max. 512 G Micro SD card.

· 12 VDC/PoE power supply, easy for installation.

· 304/316L stainless steel casing, 2 m cable.

· IP68 protection.

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.

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 compro- mising the device.

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	1/2.8" CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	128 MB
RAM	512 MB
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Scanning System	Progressive
Min. Illumination	0.005 lux@F1.5 (Color, 30 IRE) 0.0005 lux@F1.5 (B/W, 30 IRE) 0 lux (Illuminator on)
Illumination Distance	Up to 50 m (164.04 ft) (IR)
Illuminator On/Off Control	Auto; Zoomprio; Manual
Illuminator Number	3 (IR light)
S/N Ratio	>56 dB

Lens

Lens Type	Motorized vari-focal
Lens Mount	φ14
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Field of View	H: 99.4°–29°; V: 52.7°–16°; D: 118.5°–34°
Iris Control	Fixed
Close Focus Distance	0.8 m (2.62 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	64.0 m (209.97 ft)	25.6 m (83.99 ft)	12.8 m (41.99 ft)	6.4 m (21.00 ft)
	T	210.0 m (688.98 ft)	84.0 m (275.59 ft)	42.0 m (137.80 ft)	21.0 m (68.90 ft)

*DORI (Detect, Observe, Recognize, Identfy) is a standard system (EN-62676-4) for defning the ability of a person viewing the video to distnguish persons or objects within a covered area. The numbers in this table do not reflect intelligent functon distances. For intelligent functon distances, refer to installaton 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
Face Detection	Face detection; 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.

People Counting	Tripwire people counting, generating and exporting report (day/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
SMD	SMD 4.0
Quick Pick	With AI NVR, quickly pick up the human/vehicle targets that users are interested in from SMD events
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 the 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); 3M (2048 × 1536); 1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352 × 288);4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536); 3M (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	CBR/VBR
Video Bit Rate	H.264: 32 kbps–8192 kbps H.265: 32 kbps–8192 kbps
Day/Night	Auto(ICR)/Color/B/W;Auto (ICR)/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)
Defog	Yes
Mirror	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)

Privacy Masking	4 areas
S/N Ratio	>56 dB

Audio

Audio Compression	G.711a; G.711Mu; PCM; 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; voltage detection; defocus detection; external alarm; face detection; SMD; people counting in area; stay detection; people counting; security exception

Network

Network Port	RJ-45 (10/100 Base-T)
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); CGI; Milestone; Genetec
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 512 GB); NAS
Browser	IE Chrome Firefox
Management Software	Smart PSS; DSS; DMSS
Mobile Client	iOS; Android
Cyber Security	Configuration encryption;trusted execution;Digest;security logs;WSSE;account lockout;syslog;video encryption;802.1x;IP/MAC filtering;HTTPS;trusted upgrade;trusted boot;firmware encryption;generation and importing of X.509 certification

Certification

Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU; ATEX: II 2 G Ex db IIC T6 Gb, II 2 D Ex tb IIIC T80°C Db IECEx: Ex db IIC T6 Gb, Ex tb IIIC T80°C Db

Port

RS-485	1 (baud rate range:1200 bps–115200 bps)
Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)
Alarm Input	1 channel in: wet contact, 5mA 3V–5V DC
Alarm Output	1 channel out: dry contact, 1,000mA 30V DC/500mA 50V AC

Power

Power Supply	12 VDC/PoE
Power Consumption	Basic: 3.63 W (12 VDC); 4.54 W (PoE) Max. (H.265+intelligence on +WDR +IR on + auto focus): 8.87 W (12 VDC); 11.09 W (PoE)

Environment

Operating Temperature	−30 °C to +60 °C (−22 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Storage Humidity	≤95%
Protection	IP68; TVS 2000V lightning proof; surge protection; voltage transient protection

Structure

Casing Material	SUS304 SUS316L optional
Product Dimensions	215 mm x 149 mm x 151 mm (8.46" x 5.87" x 5.94") (L x W x H)
Net Weight	5 kg (11.02 lb)
Gross Weight	6.6 kg (14.55 lb)

Ordering Information

Type	Model	Description
4MP Camera	DH-ECA3A1404-HNR-XB	4MP Explosion-proof IR Bullet WizMind Network Camera
Accessories (Optional)	DC12/1A	Power Adapter
	DH-EXB109	Wall Mount Bracket
	DH-ZAZ100W	Universal Joint
	CZ300	Explosion-proof Junction Box
	ZAEX02	Explosion-proof Stuffing Box
	ZANXG-1.0	Explosion-proof Flexible Tube

Accessories

Optional:

DC12/1A
Power Adapter

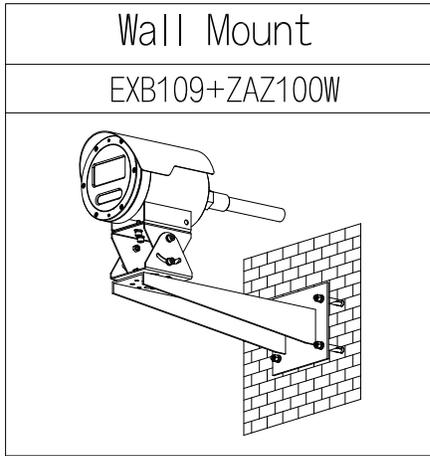
DH-EXB109
Wall Mount Bracket

DH-ZAZ100W
Universal Joint

CZ300
Explosion-proof
Junction Box

ZAEX02
Explosion-proof
Stuffing Box

ZANXG-1.0
Explosion-proof
Flexible Tube

Wall Mount
EXB109+ZAZ100W

Dimensions (mm[inch])

Ø55.0[Ø2.17]

4-M6

Ø149.0[Ø5.87]

151.5[5.96]

Ø142.0[Ø5.87]

215.4[8.48]

193.7[7.63]