DH-ECA3A1404-HNR-XB

4MP 4x Explosion-proof IR WizMind Network Camera

WizMind

- 4MP 1/2.8" CMOS
- 4x optical zoom and 16x digital zoom
- Adopts anti-corrosion stainless steel 304, and 316L is customizable
- Starlight technology
- Max. 25/30 fps@4M
- IR distance up to 40 m
- SMD Plus
- Supports perimeter protection, smart capture, and face detection

Video Metadata	WDR	Day/Night	IP68	PoE+

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.

System Overview

The product is equipped with neural network processor; it supports AI intelligent functions to effectively improve the detection accuracy, supports people, motor vehicle and non-motor capture, and supports perimeter protection.

Functions

PFA+ Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.

Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.001 Lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

SMD Plus

With Deep-Learning Algorithm, Dahua SMD Plus filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicle intrude.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	4MP
Max. Resolution	2560 (H) × 1440 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.8 B/W: 0.0005 Lux@F1.8 0 Lux (IR on)
Illumination Distance	40 m (131.23 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR/Off
Illuminator Number	3 IR lights

Lens

Focal Length	2.8 mm–12 mm
Max. Aperture	F1.8–F2.7
Field of View	H: 42.8°–91.9° V: 23.8°–49.4° D: 49.1°–109.4°
Optical Zoom	4x
Focus Control	Auto/Semi-Auto/Manual
Close Focus Distance	0.2 m–0.5 m (0.66 ft–1.64 ft)
Iris Control	Fixed

DORI Distance	Detect	Observe	Recognize	Identify
	240 m (787.40 ft)	95 m (311.68 ft)	48 m (157.48 ft)	24 m (78.74 ft)

PTZ

Preset	300
Power-off Memory	Support
Idle Motion	Preset

Artificial Intelligence

Smart Capture	Support human, motor vehicle and non-motor vehicle image capture.
Perimeter Protection	Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc.
Face Detection	Support

Video

Compression	H.265; H.264B; H.264M; H.264H; MJPEG; H.265+; H.264+
Streaming Capability	3 streams
Resolution	4M (2560 × 1440); 3M (2048 × 1536); 1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352 × 288)

Frame Rate	Main stream: 4M/3M/1080P/960P/720P (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080P/960P/720P (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 2816 Kbps–8192 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/ Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas, and up to 8 areas in the same view
S/N Ratio	55 dB

Audio

Compression	G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G722.1; G729; G723

Network

Ethernet	1 (crystal head, 10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMP; DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; SNMP v1/v2c/v3 (MIB-2); RTCP; RTMP
Interoperability	ONVIF (Profile S&G&T); CGI
Streaming Method	Unicast/Multicast
User/Host	20
Storage	FTP; Micro SD card (256G); NAS
Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; IVSS
Mobile Phone	IOS; Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 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

Audio Input	1

Audio Output	1
Two-way Audio	Support
Alarm Linkage	Capture; preset; record; alarm digital output; audio; send email
Alarm Event	Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection; abnormal power supply detection

Power

Power Supply	DC12V/1.5A±10% PoE+ (802.3af)
Power Consumption	Basic: 4W Max.: 9W (IR light on)

Environment

Operating Temperature	−40°C to +60°C (−40°F to +140°F)
Operating Humidity	≤ 95%
Protection	IP68; TVS 6000V lightning proof; surge protection; voltage transient protection

Structure

Casing	SUS304/SUS316L (customizable)
Dimensions	215 mm x 149 mm x 151 mm (8.46" × 5.87" × 5.94") (L × W × H)
Net Weight	3 kg (6.61 lb)
Gross Weight	6.3 kg (13.89 lb)

Ordering Information

Type	Model	Description
4MP WizMind Network Camera	DH-ECA3A1404-HNR-XB	4MP 4x Explosion-proof IR WizMind Network Camera, PAL
	DH-ECA3A1404N-HNR-XB	4MP 4x Explosion-proof IR WizMind Network Camera, NTSC
Accessories	DH-EXB109	Wall Mount Bracket
	DH-ZAZ100W	Universal Joint
	DH-GD1000 (1 m)	Flexible Tube
	DC12V/1.5A	Power Adapter

Accessories

Optional:

DH-EXB109
Wall Mount Bracket
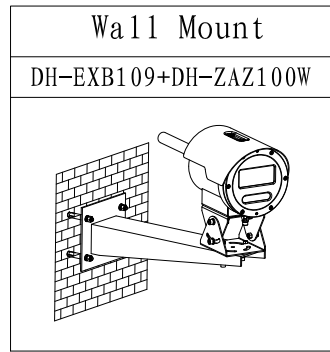
DH-ZAZ100W
Universal Joint

DH-GD1000 (1 m)
Flexible Tube

DC12V/1.5A
Power Adapter

Wall Mount

DH-EXB109+DH-ZAZ100W

Dimensions(mm[inch])

φ55.0[φ2.17]

4−M6[M0.24]

φ149.0[φ5.87]

φ142.0[φ5.87]

151.5[5.96]

215.4[8.48]

193.7[7.63]