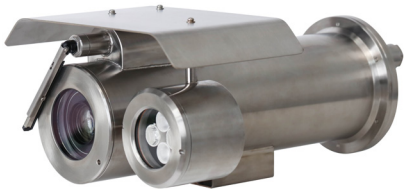


# DH-ECA7B1231-HNP-XA-F

## 2MP 31 Starlight IR EXPLOSION-PROOF 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.

### System Overview

With its explosion-proof structure, this series ensures that safety and performance are delivered with each camera and its accessories. Its stainless steel design and ATEX and IECEx certification promise durability and protection for the surrounding area. It is applicable to Class I/II/III, Divisions 1 and 2, Zones 1, 2, 21, 22, and Groups IIC and IIIC, and is ideal for use in a wide variety of scenarios such as chemical plants, coal mines, fuel oil plants, and flour mills.

### 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 filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving 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.

- 1/1.8" 2Megapixel STARVIS™ CMOS
- 31× optical zoom.
- Starlight technology.
- Max. 25/30 fps@1080p
- IR distance up to 100 m.
- H.265 encoding.
- Perimeter protection.
- Face detection.
- Wiper.
- Optical Fiber.
- Support helmet detection and helmet color recognition.



#### 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

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

#### Privacy Masking

Up to 24 areas can be set, with up to 8 areas in the same view. It also supports multiple color blocks and mosaics.

### Technical Specification

#### Camera

Image Sensor	1/1.8" CMOS
Pixel	2 MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.001 lux@F1.6 B/W: 0.0001 lux@F1.6 0 lux (IR light on)
Illumination Distance	100 m (328.08 ft)
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR; Off
Illuminator Number	4 (IR)
Wiper	Wiper

#### Lens

Focal Length	6 mm–186 mm
Max. Aperture	F1.6–F4.0
Field of View	H: 59.8°–2.8°; V: 33.7°–1.9°; D: 63.3°–4°
Optical Zoom	31×
Focus Control	Auto; semi-auto; manual
Iris Control	Auto; semi-auto; manual

#### PTZ

Preset	300
Tour	8 (up to 32 presets per tour)
Power-off Memory	Yes
Idle Motion	Preset; Tour

#### Intelligence

Video Metadata	Motor vehicle, non-motor vehicle, face, and human body detection; tracking; optimization; capturing pictures; uploading high-quality face snapshots
IVS (Perimeter Protection)	Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification
Face Detection	Supports face detection, optimization, face bounding box, capturing pictures, uploading high-quality face snapshots, and face enhancement; Supports attributes extraction. 6 attributes and 8 expressions: Gender, age, glasses, expressions (angry, sad, hate, scary, surprise, calm, happy and confused), mask, mustache; Supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing, optimization, and quality first
Job Monitoring	Helmet detection; helmet color recognition
SMD	Yes

#### Video

Video Compression	H.265; H.264; H.264B; MJPEG; Smart H.264; Smart H.265
Streaming Capability	3 streams
Resolution	1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 1080p/1.3M/720p (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080p/1.3M/720p (1–25/30 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 2816 kbps–8192 kbps H.265: 1024 kbps–7936 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
WDR	Yes
HLC	Yes
White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp
Gain Control	Auto; manual
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (ROI)	Yes
Image Stabilization	Electronic (EIS)
Defog	Electronic
Digital Zoom	16×
Image Rotation	180°
Privacy Masking	Up to 24 areas can be set, with up to 8 areas in the same view. It also supports multiple color blocks and mosaics.
S/N Ratio	≥55 dB

#### Audio

Audio Compression	G.711a; G.711Mu; G.726; MPEG2-Layer2; G.722.1; G.729; PCM; G.723
-------------------	--

#### Network

Network Port	1 (crystal head, 10/100 Base-T)
Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; IPv6; 802.1x; SSL; QoS; FTP; UPnP; iCMP; SNMP; SNMPv1/v2c/v3 (MIB-2); IGMP; ARP; RTCP; RTP; PPPoE; IP Filter; RTMP; Bonjour; TCP; SMB; NFS
Interoperability	ONVIF Profile S&G&T; 35114 A level; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	FTP; Micro SD card (256 G); NAS
Browser	IE 7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS; NVR; Smart Player
Mobile Client	iOS; Android; iPhone; iPad

**Certification**

Certifications	FCC: 47 CFR FCC Part15, Subpart B, ClassA CE: EN55032/EN55024/EN55035/EN50130-4/EN 61000-3-3/EN IEC 61000-3-2/EN 62368-1 IECEX: IEC 60079-0/IEC 60079-1/IEC 60079-31 ATEX: IEC 60079-0/IEC 60079-1/IEC 60079-31
----------------	--

**Port**

RS-485	1 (baud rate: 1200 bps–9600 bps)
Audio Input	1 channel
Audio Output	1 channel
Alarm Linkage	Capture; preset; tour; pattern; recordings on SD card; alarm digital input; send email
Alarm Event	Motion/tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection
Optical Fiber	100 M single fiber port Specifications: 1310 nm TX/1550 nm RX Transmission Distance: 20 km (12.43 mi)
Alarm I/O	2/1
Audio I/O	1/1

**Power**

Power Supply	100–240 VAC
Power Consumption	Basic: 10 W Max.: 19 W (IR on)

**Environment**

Operating Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Operating Humidity	≤95%
Protection	IP68

**Structure**

Casing Material	Stainless steel
Product Dimensions	192 mm × 488 mm × 284 mm (7.56" × 19.21" × 11.18")
Net Weight	10 kg (22.05 lb)
Gross Weight	16 kg (35.27 lb)

**Ordering Information**

Type	Model	Description
2MP Starlight IR EXPLOSION-PROOF CAMERA	DH-ECA7B1231-HNP-XA-F	2MP 31 Starlight IR EXPLOSION-PROOF CAMERA
Accessories (Optional)	DH-SDPJ008-7B1-316	Wall Mount Bracket
	DH-ZAZ100W	Mount Adapter
	CZ300	Junction Box (ATEX/IECEX)
	ZAEX02	Connector (ATEX/IECEX)
	ZANXG-1.5	Flexible Tube (ATEX/IECEX)

**Accessories**

Optional:



DH-SDPJ008-7B1-316  
Wall Mount  
Bracket



DH-ZAZ100W  
Mount  
Adapter



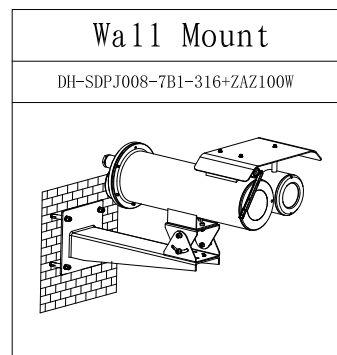
CZ300  
Junction Box  
(ATEX/IECEX)



ZAEX02  
Connector  
(ATEX/IECEX)



ZANXG-1.5  
Flexible Tube  
(ATEX/IECEX)



**Dimensions (mm[inch])**

