

# Explosion-protected Network PTZ Camera

## 2 MP 30x Starlight H.265 IR Network PTZ Camera



- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- Powerful 30x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- Triple-stream Encoding
- Smart H.265+ and H.264 Dual Codecs
- 1080p at 60 fps Maximum Resolution
- Intelligent Video System
- Maximum IR Distance 100 m (328 ft)
- 316L Stainless Steel Housing
- ATEX and IECEx Certifications
- IP68 Ingress Protection
- Five-year Warranty\*



### System Overview

The Dahua Explosion-protected Camera series features a powerful optical zoom lens and a rugged design that meets the ATEX and the IECEx standards. This camera series uses a 1/2.8-in. STARVIS™ CMOS imager with a 30x optical zoom lens, and provides an all-in-one solution for capturing long-distance video surveillance in critical environments. The camera uses the H.265 video compression standard to improve encoding efficiency while preserving high-quality video. The explosion-protected stainless steel camera is designed to prevent ignition of surrounding gasses or combustible dust, and is the ideal surveillance solution for use in the oil production, pipeline, refinery, chemical, and grain storage industries.

### Functions

#### Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

#### True 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.

#### Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera detects and captures a snapshot of human face in a defined area within a scene, and offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

#### Environmental

With a built-in heater and a temperature range of  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ ), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP68 rating makes it suitable for demanding outdoor applications.

#### Protection

The camera allows for  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 2KV lightning rating provides effective protection for both the camera and its structure against lightning.

#### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) and PSIA (Physical Security Interoperability Alliance) specifications, ensuring interoperability between network video products regardless of manufacturer.

## Technical Specification

### Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS
Effective Pixels	1920 (H) x 1080 (V), 2 MP
RAM/ROM	512 MB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.6 0 lux at F1.6 (IR on)
S/N Ratio	More than 55 dB
IR Distance	Up to 100.0 m (328.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Seven (7)

### Lens

Focal Length	4.5 mm to 135 mm
Max. Aperture	F1.6 to F4.4
Angle of View	Horizontal: 67.8° to 2.4°
Optical Zoom	30x
Focus Control	Auto, Manual
Close Focus Distance	100 mm to 1000 mm (3.94 in. x 39.37 in.)

### DORI<sup>1</sup> Distance

Detect	Observe	Recognize	Identify
1862 m (6109 ft)	744 m (2441 ft)	372 m (1220 ft)	186 m (610 ft)

### PTZ

Pan/Tilt Range	Pan: 0° to 360° endless; Tilt: -90° to 90°
Manual Control Speed	Pan: 0.1° to 40° /s; Tilt: 0.1° to 40° /s
Preset Speed	Pan: 40° /s; Tilt: 40° /s
Presets	256
PTZ Mode	5 Scan Modes, 8 Tour Modes
Speed Setup	Proportional Pan/Tilt Speed to Zoom Ratio
Power up Action	Auto restore to previous PTZ and lens status after power failure
Idle Motion	Activate Preset, Scan, Tour if there is no command in the specified period
Protocol	DH-SD, Pelco-P/D (Auto recognition)

### Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264
Streaming Capability	Three (3) Streams
Resolution	1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)

Frame Rate	Main Stream: 1080p, 1.3 MP, 720p at 60 fps
	Sub Stream 1: D1/CIF at 30 fps
	Sub Stream 2: 1080p, 1.3 MP, 720p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 448K to 8192 Kbps
Day/Night	Auto (ICR), Color, B/W
Backlight Compensation	BLC, HLC, True WDR (120 dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	Ultra DNR (2D/3D)
Advanced Features	Motion Detection, Region of Interest, Electronic Image Stabilization (EIS), Defog
Digital Zoom	16x
Flip	180°



### Audio

Compression	G.711a, G.711Mu, AAC, G.722, G.726, MPEG2-L2
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### Network

Ethernet	RJ45 (10 Base-T, 100 Base-TX)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast / Multicast
Maximum User Access	20 Users
Edge Storage	Network Attached Storage (NAS), Local PC for instant recording, Micro SD Card Slot, maximum 128 GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	SmartPSS, DSS
Mobile Operating System	iOS, Android

### Certifications

Explosion-protection Standards	ATEX	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-28:2015 EN 60079-31:2014
	IECEX	IEC 60079-0:2011 IEC 60079-1:2014-06 IEC 60079-28:2015 IEC 60079-31:2013
Explosion-protection Marking	ATEX	 II 2 G Ex db IIC T6 Gb
	IECEX	 II 2 D Ex tb IIIC T80°C Db Ex db IIC T6 Gb, Ex db IIIC T80° Db

1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.

## Interface

Video	Output: One (1) BNC Port (1.0 Vp-p, 75 Ω)
RS485	One (1)
Audio	Input: One (1) Channel Output: One (1) Channel
Alarm	Input: Two (2) Channels Output: One (1) Channel

## Electrical

Power Supply	220 VAC (100 VAC to 240 VAC)
Power Consumption	40 W, 75 W with IR and Heater on

## Environmental

Operating Conditions	-40° C to 60° C (-40° F to +140° F), Less than 95% RH
Ingress Protection	IP68

## Construction

Casing	316L Stainless Steel
Dimensions	511.0 mm x 420.0 mm x 295.0 mm (20.12 in. x 16.54 x 11.61 in.)
Net Weight	28.90 kg (63.71 lb)
Gross Weight	35.0 kg (77.16 lb)

## Intelligence

IVS triggers an alarm and takes a defined action for the following events:

Standard Features	Standard Features
	<ul style="list-style-type: none"> <li>Tampering with the camera.</li> <li>Camera loses or changes focus drastically.</li> <li>Error writing to an onboard Micro SD card.</li> <li>Error sending or receiving data over the network.</li> <li>Unauthorized access to the camera.</li> </ul>
Premium Features	Premium Features
Motion	An object moves through any part of the scene.
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the scene.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.
Advanced Features	Advanced Features
Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.
Heat Map	Generates a visual representation of data.

## Ordering Information

Type	Part Number	Description
2 MP Explosion-protected Camera	DH-EPC230UN-PTZ-IR	2 MP 30x Explosion-protected IR Network PTZ Camera, True WDR
Accessories, optional	DH-ZAZ660B	Wall Mount
	DH-ZA-JXD4	Junction Box (ø227 mm)
	DH-ZAJ300	Junction Box (ø376 mm)
	DH-GE1500	Flexible Tube

## Accessories

Optional:



DH-ZAZ660B  
Wall Mount



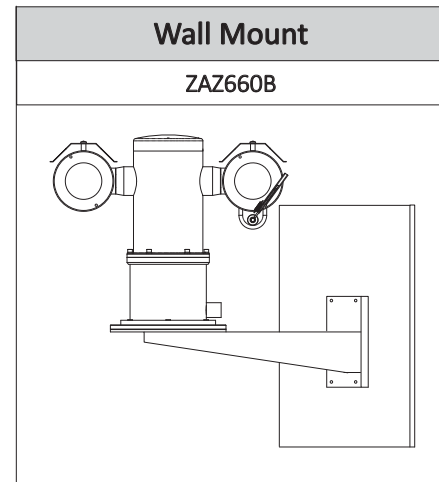
DH-ZA-JXD4  
Junction Box



DH-ZAJ300  
Junction Box



DH-GE1500  
Flexible Tube



## Dimensions (mm/in.)

