

# 4MP ePoE Network Bullet Camera

Ultra Wide Dynamic Range Vari-focal Network Camera with Analytics+



- 1/1.8-in. 4 MP Progressive-scan CMOS Sensor
- Five-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4 MP (2688 x 1520) at 60 fps Maximum Resolution
- 2.7 mm to 12 mm Motorized Vari-focal Lens
- Enhanced Power and Data Transmission Distances (ePoE)
- Analytics+ Functions — Face Recognition, People Counting, Perimeter Protection, and Image Attribute Extraction
- Ultra Wide Dynamic Range (140 dB) and Day/Night IR Cut Filter
- Maximum IR LED Distance 50 m (164.04 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty\*



## System Overview

The Dahua 4 MP ePoE camera offers Analytics+ functions at the edge – performing complex real-time face recognition, people counting, and perimeter protection surveillance. The Dahua Analytics+ algorithms significantly improve accuracy and reliability as compared to standard intelligent features. The camera is ideal for a host of diverse applications — Ultra Wide Dynamic Range and Smart IR technologies allow the camera to operate in any lighting condition and the IP67 and IK10 rating make the camera suitable for the harshest environments.

## Functions

### Face Recognition

The camera includes human facial feature extraction, real-time facial snapshots, and supports a database of up to 200,000 face images and five (5) libraries. The feature enables a pro-active way to identify persons of interest before an incident occurs. The advanced processor extracts and categorizes various features, including age, gender, expression, and whether the target face wears glasses or sports facial hair. The camera is ideal for applications that require entrance/exit management, where knowing who is coming and going is a valuable asset.

### People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. The line crossing function counts the number of people crossing a defined line, and the regional function counts the number of people in a distinct, user-defined area. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

### Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

## Image Attribute Extraction

Analytics+ allows the camera to classify images in a video stream and then extract and store attributes and features for a specific image. The camera can distinguish between vehicle and human objects, track the object in real-time, and extract attributes, such as vehicle type, color, and make; or gender, clothing color, and facial attributes for people.

## Enhanced Power over Ethernet (ePoE) Technology

Dahua's innovative ePoE technology offers a plug-and-play solution to transmit power and data over long distances via Ethernet or coaxial cables, reducing installation time and saving money. ePoE technology is a viable, cost-effective solution for extending transmission distances and for converting existing, coax-based analog systems into IP systems. For new installations, ePoE offers the ability to design long-distance applications without the need for additional repeaters.

## 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.

## Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ ). The camera complies with an IK10 impact rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.). Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

### Technical Specification

#### Camera

Image Sensor	1/1.8-in. 4 MP CMOS
Effective Pixels	2688(H) x 1520(V)
RAM/ROM	2 GB / 16 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.001 lux at F1.2 (1/3 s, 30 IRE) 0 lux at F1.2 (with IR on)
IR Distance	Distance up to 50.0 m (164.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Four (4)

#### Lens

Lens Type	Electric Zoom				
Mount Type	Module Interface				
Focal Length	2.7 mm to 12 mm				
Max. Aperture	F1.2				
Angle of View	Horizontal: 111° to 47° Vertical: 59° to 26° Diagonal: 135° to 51°				
Optical Zoom	4x				
Aperture Control	Auto				
Close Focus Distance	Wide: 1.0 m (3.29 ft) Tele: 2.50 m (8.20 ft)				
DORI Distance <sup>1</sup>	Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
	Wide	60.10 m (187.18 ft)	24.0 m (78.74 ft)	12.0 m (39.37 ft)	6.0 m (19.69 ft)
	Telephoto	128.60 m (421.92 ft)	51.40 m (168.64 ft)	25.70 m (84.32 ft)	12.80 m (41.99 ft)

#### Installation Angle

Range	Pan: 0° to 360°; Tilt: 0° to 90°; Rotation: 0° to 360°
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#### Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)
Streaming Capability	Five (5) Streams
Resolution	4 MP (2688 x 1520), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)
Frame Rate	Main Stream: 4 MP (2688 x 1520) at 60 fps
	Sub Stream 1: 704 x 576 at 30 fps
	Sub Stream 2: 1080p (1920 x 1080) at 30 fps
	Sub Stream 3: 1080p (1920 x 1080) at 30 fps
Sub Stream 4: 704 x 576 at 30 fps	
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps to 10240 Kbps H.265: 12 Kbps to 10240 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, Ultra WDR (140 dB), SSA

White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control	Auto, Manual
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones, Rectangular)
Region of Interest	Off, On (4 Zones)
Advanced Features	Electronic Image Stabilization (EIS), Smart IR, Defog
Flip	0°, 90°, 180°, 270° (supports 90° and 270° with 1080p resolution or lower)
Mirror	Off, On
Privacy Masking	Off, On (4 Areas, Rectangular)

#### Audio

Compression	G.711a, G.711Mu, AAC, G.726
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#### Network

Ethernet	RJ-45 (100/1000 Base-T)
Protocol	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, ICMP, IGMP, 802.1x
Interoperability	ONVIF Profile S and G, CGI, P2P, RTMP
Maximum User Access	20 Users
Edge Storage	Network Attached Storage (NAS) FTP, SFTP Micro SD Slot, maximum 256 GB
Web Viewer	IE (Version 9 and higher), Chrome (Version 42 and higher), Firefox (Version 48.0.2 or higher)
Management Software	SmartPSS, DSS Pro, IVSS
Mobile Operating System	iOS, Android

#### Certifications

Safety	UL60950-1 CAN/CSA C22.2 No.60950-1-07 EN60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU

#### Interface

Audio	Input: One (1) Channel Output: One (1) Channel
Alarm	Input: Three (3) Channels (5 mA, 5 VDC) Output: Two (2) Channels 1000 mA, 30 VDC 500 mA, 50 VAC
RS485	One (1) Port (Bit rate: 1200 bps to 115200 bps)

#### Electrical

Power Supply	12 VDC, 24 VAC, or PoE (IEEE 802.3af, Class 0)	
Power Consumption	12 VDC	Standard: 3.7 W with IR and ICR ON: 12.2 W
	24 VAC	Standard: 5.7 W with IR and ICR ON: 17.3 W
	PoE	Standard: 5.5 W with IR and ICR ON: 17.1 W

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.

**Ordering Information**

Type	Part Number	Description
Analytics+ Camera	DH-IPC-HFW7442HN-ZFR	4 MP ePoE Vari-focal Bullet Camera
Mounting Accessories, optional	PFA154	Pole Mount
	DH-PFM320D-US	12 VDC, 2 A Power Adapter
ePoE Accessories, optional	LR1002	EoC Passive Converter
	LR1002-1EC	Single-port EoC Receiver

**Accessories**

Optional:



PFA154 Pole Mount



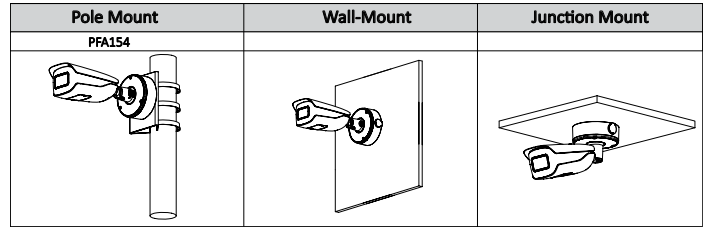
DH-PFM320D-US Power Adapter



LR1002 EoC Passive Converter



LR1002-1EC Single-port EoC Receiver



**Dimensions (mm/in.)**

