



**Technical Specification**

Camera

Image Sensor	1/1.2-in. 8MP Progressive-scan CMOS
Effective Pixels	3840(H) x 2160(V)
RAM/ROM	1 GB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
S/N Ratio	> 56 dB
Minimum Illumination	Color: 0.0005 lux at F1.0
Illuminator Type	White-light LED
Illumination Distance	40.0 m (131.23 ft)
Illuminator Control	Automatic, Manual, Off
Illuminators	Four (4)

Lens

Lens Type	Fixed-focal				
Mount Type	M22				
Focal Length	2.8 mm				
Maximum Aperture	F1.0				
Angle of View	Horizontal: 112° Vertical: 61° Diagonal: 131°				
Iris Type	Fixed				
Close Focus Distance	3.10 m (10.17 ft)				
DORI <sup>1</sup> Distance	Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
	2.8 mm	82.8 m (271.7 ft)	33.1 m (108.6 ft)	16.6 m (54.5 ft)	8.3 m (27.2 ft)

Installation Angle

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

Compression	AI Coding, Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)	
Streaming Capability	Three (3) Streams	
Resolution	8MP (3840 x 2160), 3072 x 2048, 3072 x 1728, 2592 x 1944, 4MP (2688 x 1520), 3MP (2048 x 1536), 2304 x 1296, 1080p (1920 x 1080), 1.3MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)	
Frame Rate	Main Stream	8 MP (3840 x 2160) at 30 fps
	Sub Stream 1	D1 (704 x 480) at 30 fps
	Sub Stream 2	1080p (1920 x 1080) at 30 fps
Bit Rate Control	CBR/VBR	
Bit Rate	H.264: 32 Kbps to 8192 Kbps H.265: 12 Kbps to 8192 Kbps	
Day/Night	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, Gain Priority, Shutter Priority
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones)
Region of Interest	Off, On (4 Zones)
Advanced Features	Defog
Image Rotation	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (8 Areas, Rectangular)

Audio

Compression	G.711a, G.711Mu, G.726, G.723, PCM
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Network

Ethernet	RJ-45 (10/100 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/Profile G/Profile T); CGI; P2P
Streaming Method	Unicast, Multicast
Maximum User Access	20 (Total bandwidth: 80 Mbps)
Edge Storage	Network Attached Storage (NAS) FTP, SFTP Micro SD Card Slot, maximum 256 GB
Web Viewer	IE (Version 8 and higher), Chrome, Firefox
Management Software	DSS, DMSS
Mobile Operating System	IOS, Android
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

Safety	UL60950-1, CAN/CSA C22.2 No.60950-1-07 EN62368-1
Electromagnetic Compatibility (EMC)	CFR 47 FCC Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU

Interface

Audio	Input	One (1) Channel, RCA plus a built-in Microphone
	Output	One (1) Channel, RCA plus a built-in Speaker
Alarm	Input	One (1) Channel, 5mA, 3V to 5V DC
	Output	One (1) Channel, 300mA, 12V DC

Electrical

Power Supply	12 VDC ±30%, PoE (IEEE 802.3af, Class 0), or ePoE	
Power Consumption	Basic	12 VDC: 2.2 W PoE: 2.8 W
	Maximum	12 VDC: 8.4 W PoE: 9.4 W

Environmental

Operating Conditions	-40° C to +60° C (-40° F to +140° F), Less than 95% RH
Storage Conditions	-40° C to +60° C (-40° F to +140° F),
Ingress Protection	IP67

Construction

Casing	Metal
Dimensions (L x W x H)	288.40 mm x 94.40 mm x 84.70 mm (11.35 in. x 3.72 in. x 3.22 in.)
Net Weight	1.0 kg (2.20 lb)
Gross Weight	1.23 kg (2.71 lb)

Analytics+ Functions<sup>2</sup>

Smart Plan Schedule	Enable Analytics+ functions depending on a user-defined schedule. Allows the camera to switch analytic functions based on time.	
Perimeter Protection	<ul style="list-style-type: none"> <li>Detects human or vehicle violations using the following methods:                             <ul style="list-style-type: none"> <li><b>Tripwire:</b> a target crosses a defined line.</li> <li><b>Intrusion:</b> a target enters or exits a defined perimeter.</li> </ul> </li> <li>Monitors a combination of detection methods.</li> <li>Search and retrieve video based on target type.</li> </ul>	
People Counting	<ul style="list-style-type: none"> <li>Delivers accurate flow statistics from the following methods:                             <ul style="list-style-type: none"> <li><b>Line Crossing:</b> counts a person as they cross a threshold in a defined direction.</li> <li><b>Region:</b> counts the number of people in a defined area.</li> </ul> </li> <li>Counts people simultaneously from four (4) threshold lines and four (4) defined regions.</li> </ul>	
Queue Management	<ul style="list-style-type: none"> <li>Monitors four (4) user-defined regions where people wait in line (or queue). Issues an alarm for the following triggers:                             <ul style="list-style-type: none"> <li><b>People in Line:</b> the number of people in line exceeds a minimum threshold.</li> <li><b>Wait Time:</b> time a person waits in line is greater than the minimum queue time.</li> </ul> </li> </ul>	
Face Detection	<ul style="list-style-type: none"> <li>Detects and captures a snapshot of a human face within a scene.</li> </ul>	
Smart Motion Detection+	<ul style="list-style-type: none"> <li>Differentiates between and classifies human and vehicle objects.</li> <li>Filters false alarms due to leaves, lights, animals, and other inconsequential objects.</li> <li>Extracts human or vehicle objects from recorded video for quick target search and retrieval.</li> </ul>	
Recommended Detection Distance	Human	Up to 10.0 m (32.81 ft)
	Vehicle	Up to 15.0 m (49.21 ft)

Intelligent Video System Functions

IVS triggers an alarm and takes a defined action for the following events:	
Standard Features	<ul style="list-style-type: none"> <li>Tampering with the camera.</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> <li>IP Address Conflict</li> </ul>
Premium Features	
Missing Object	An object is missing from a designated area.
Abandoned Object	An object is placed in a designated area where no object should be.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the scene.
Fast Moving	Target exceeds a set speed when exiting a defined area
Parking Detection	Vehicle remains in a defined area without motion for a set period of time.
Crowd Gathering	Specified number of people remain inside a defined area for a set time.
Loitering Detection	Target is in motion inside a defined area longer than a specified amount of time.

ePoE Transmission Distances

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 48 V  
Maximum DC resistance < 10 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	53	IEEE/E100
200 (656)	100	25.5	33	E100
300 (984)	100	19	19	E100
400 (1312)	10	17	17	E10
500 (1640)	10	13	13	E10
800 (2625)	10	7	7	E10

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 53 V  
Maximum DC resistance < 10 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	53	IEEE/E100
200 (656)	100	25.5	47	E100
300 (984)	100	25.5	32	E100
400 (1312)	10	23	26	E10
500 (1640)	10	20	20	E10
800 (2625)	10	13	13	E10

Via RG-59 Coaxial Cable

ePoE supply voltage 48 V  
Maximum DC resistance < 5 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	50	IEEE/E100
200 (656)	100	25.5	30	E100
300 (984)	100	18	18	E100
400 (1312)	100	15	15	E100
500 (1640)	10	12	12	E10
800 (2625)	10	6	6	E10
1000 (3281)	10	5	5	E10

Via RG-59 Coaxial Cable

ePoE supply voltage 53 V  
Maximum DC resistance < 5 Ω/100 m

Cable Length, m (ft)	Bandwidth, Mbps	PoE Load Capacity, W	Hi-PoE Load Capacity, W	Working Mode
100 (328)	100	25.5	52	IEEE/E100
200 (656)	100	25.5	48	E100
300 (984)	100	25.5	30	E100
400 (1312)	100	20	23	E100
500 (1640)	10	16	16	E10
800 (2625)	10	10	10	E10
1000 (3281)	10	8	8	E10

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.

2. Pair a Smart Motion Detection camera with a Dahua recording device that also offers SMD functionality to take advantage of SMD alarm filtering and object classification when searching and playing back recorded video.

**Ordering Information**

Type	Part Number	Description
Analytics+ Camera	N85EFN2	8MP ePoE Enhanced Night Color 2.0 Fixed Lens Bullet Camera with Analytics+
Accessories, optional	PFA130-E	Junction Box
	PFA151	Corner Mount
	PFA152-E	Pole Mount
	DH-PFM321D-US	12 VDC, 1 A Power Adapter
ePoE Accessories, optional	LR1002	EoC Passive Converter
	LR1002-1EC	Single-port EoC Receiver

**Accessories**

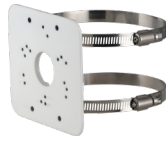
Optional:



PFA130-E  
Junction Box



PFA151  
Corner Mount



PFA152-E  
Pole Mount



DH-PFM321D-US  
12 VDC, 1 A  
Power Adapter

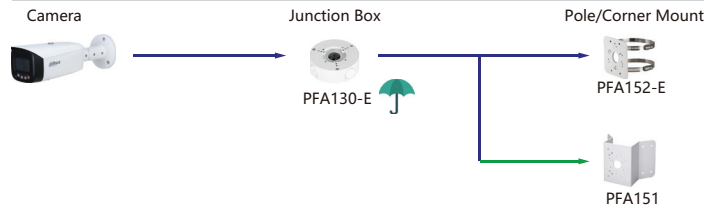


LR1002  
EoC Passive  
Converter



LR1002-1EC  
Single-port EoC  
Receiver

**Mounting Diagram**



**Dimensions**

