4MP Corrosion-resistant Network Dome Camera

4 MP IR Vari-focal Dome

- 1/1.8-in. 4 MP Progressive-scan CMOS Sensor
- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 4 MP (2688 x 1520) at 30 fps
- Ultra Wide Dynamic Range (140 dB)
- Analytics+ Functions — Perimeter Protection, People Counting, and Smart Motion Detection
- Starlight+ Technology for Low-light Applications
- Enhanced Power and Data Transmission Distances (ePoE)
- Maximum IR Distance 40 m (131.20 ft)
- ArcticPro Series Camera — Operational down to –40° C (–40° F)
- IP67 Ingress Protection, IK10 Vandal Resistance, NEMA 4X Enclosure Rating
- Five-year Warranty*

WizMind

ArcticPro

WizMind Series devices offer the full complement of Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products deliver perimeter protection, vehicle and crowd density statistics, video metadata, and advanced people counting with heat map functionality. WizMind is ideal for complex applications with demanding requirements that need advanced analytic capabilities.

System Overview

The Dahua 4 MP corrosion-resistant network camera features a special coating that makes the camera compliant to the NEMA 4X standard. The camera offers a motorized vari-focal lens, True Wide Dynamic Range, and Starlight technology for crisp, clear images in most applications. Plus, the camera offers Smart Motion Detection and advanced perimeter protection intelligence. The camera is suitable for salt-spray and corrosive environments, such as ports, coastlines, boats and other applications where rugged conditions persist.

Functions

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.

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.

ArcticPro

The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components, a waterproof enclosure, and an integrated heater to ensure flawless operation in temperatures as low as –40° C (–40° F). For applications that demand high-resolution video with advanced features in extremely cold environments, the Dahua ArcticPro Series offers a camera to satisfy the most demanding requirements.

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 encompasses pure IP systems

Cybersecurity

Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental

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.

*Warranty applies to products sold through an authorized Dahua Dealer.

Technical Specification

Camera

Image Sensor	1/1.8-in. 4 MP CMOS
Effective Pixels	2688(H) x 1520(V)
RAM/ROM	1 GB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.003 lux at F1.8 (30 IRE) B/W: 0.0003 lux at F1.8 (30 IRE) 0 lux at F1.8 with IR on
S/N Ratio	Greater than 56 dB
IR Illumination Distance	40.0 m (131.20 ft)
IR On/Off Control	Auto, Manual
IR Illuminators	Three (3)

Lens

Lens Type	Motorized Vari-focal
Mount Type	ø14
Focal Length	2.7 mm to 12 mm
Max. Aperture	F1.8
Angle of View	Horizontal: 44° to 107° Vertical: 29° to 69° Diagonal: 53° to 134°
Iris Type	Auto
Close Focus Distance	1.20 m (47.24 ft)

	Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
DORI Distance[1]	Wide	57.0 m (187.0 ft)	23.0 m (75.46 ft)	11.0 m (36.09 ft)	5.70 m (18.70 ft)
	Tele	130.70 (428.81)	52.0 (170.60)	26.0 (85.30)	13.0 (42.65)

Installation Angle

Range	Pan: 0° to 355° Tilt: 0° to 80° Rotation: 0° to 355°

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream only)
Streaming Capability	Three (3) Streams
Resolution	4 MP (2688 x 1520), 2560 x 1440, 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[2]	Main Stream: 4 MP (2688 x 1520) at 30 fps or 1080p (1920 x 1080) at 60 fps
	Sub Stream 1: D1 at 30 fps
	Sub Stream 2: 1080p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps to 8192 Kbps H.265: 32 Kbps to 8192 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, Gain Priority, Shutter Priority
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones, Rectangular)
Region of Interest	Off, On (4 Zones)
Advanced Features	Smart IR, Defog, Electronic Image Stabilization
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (8 Areas, Rectangular)

Audio

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

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, G, T; CGI, Milestone; Genetec; P2P; SDK; API
Auto Register	Support
Streaming Method	Unicast, Multicast
Maximum User Access	20 Users (Total Bandwidth: 80 Mbps)
Edge Storage	Network Attached Storage (NAS) SFTP, FTP Micro SD Slot, maximum 256 GB
Web Viewer	IE (Versions 8 and later) 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, EN60950-22
Electromagnetic Compatibility (EMC)	CFR 47 FCC 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, 3 VDC to 5 VDC)
	Output	Two (2) Channels (300 mA, 12 VDC)

Electrical

Power Supply		12 VDC (±25%), 24 VAC (±30%), PoE (IEEE 802.3af, Class 0), or ePoE
Power Consumption	Basic	12 VDC: 3.6 W 24 VAC: 3.1 W PoE: 4.4 W
	Maximum	12 VDC: 11.7 W 24 VAC: 11.3 W PoE: 11.9 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), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10
Enclosure Rating	NEMA Type 4X

Construction

Casing	Metal
Dimensions	ø157.90 mm x 129.10 mm (ø6.22 in. x 5.08 in.)
Net Weight	1.50 kg (3.30 lb)
Gross Weight	1.60 kg (3.50 lb)

Analytics+ Functions

Perimeter Protection	• Detects human or vehicle violations using the following methods: **Tripwire**: a target crosses a defined line. **Intrusion:** a target enters or exits a defined perimeter. • Monitors a combination of detection methods. • Search and retrieve video based on target type.
People Counting	• Delivers accurate flow statistics from the following methods: **Line Crossing:** counts a person as they cross a threshold in a defined direction. **Region:** counts the number of people in a defined area. • Counts people simultaneously from four (4) threshold lines and four (4) defined regions.
Heat Map	Generates a visual representation of data.
Smart Motion Detection	• Differentiates between and classifies human and vehicle objects. • Filters false alarms due to leaves, lights, animals, and other inconsequential objects. • Extracts human or vehicle objects from recorded video for quick target search and retrieval.

Intelligent Video System Functions

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

Standard Features	• Tampering with the camera. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera. • IP Address Conflict
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. The actual maximum frame rate may be different based on the total encoding capacity.

Ordering Information

Type	Part Number	Description
Corrosion-resistant Camera	DH-IPC-HDBW5442HN-ZHE	4 MP Corrosion-resistant ePoE Starlight Vari-focal Dome Camera with Analytics+
Accessories, optional	DH-PFM321D-US	12 VDC, 1 A Power Adapter
ePoE Accessories, optional	LR1002	EoC Passive Converter
	LR1002-1EC	Single-port EoC Receiver

Accessories

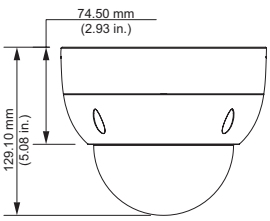
Optional:

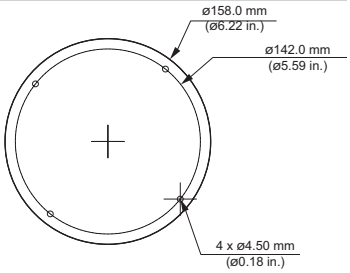
DH-PFM321D-US
Power Adapter

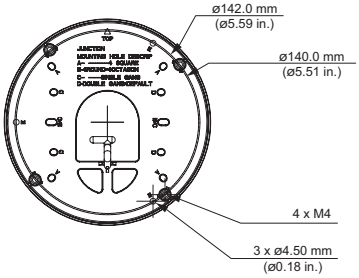
LR1002
EoC Passive Converter

LR1002-1EC
Single-port EoC Receiver

Dimensions







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