

2 MP HDMI Public Viewing Monitor Solution

True WDR Dome Network Camera with HDMI Output



System Overview

The 2 MP dome camera features an advanced 1/2.8-in. imager with a 2.7 mm to 13.5 mm vari-focal lens. The camera offers True Wide Dynamic Range, a True Day/Night IR Cut filter, and IP67 Ingress Protection to deliver superior images in harsh lighting or environmental conditions. The camera features an HDMI output connection for connection to a public view or to a spot monitor. The camera is a component of Dahua's innovative Enhanced Power over Ethernet (ePoE) system that transmits power and data over long distances without the need for repeaters or multiple switches.

Functions

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 video security and surveillance installers, ePoE technology saves time and money by reducing overall cabling requirements, allowing for existing coax cable to be used, and minimizing the number of peripheral devices needed. For new installations, ePoE offers the ability to design long-distance applications without the need for additional repeaters.

Enhanced PoE encompasses pure IP systems where a single CAT 5 cable can carry signals up to 800 m (2624 ft), and IP/Analog hybrid systems where the technology leverages existing analog infrastructure to transmit power and data up to 1000 m (3281 ft) over RG-59 coaxial cable. Enhanced PoE is compatible with three connection modes operating over the same network simultaneously: traditional IP networks, long-distance ePoE networks and coaxial networks. ePoE technology seamlessly integrates the latest high-definition IP cameras with a coaxial infrastructure using the Ethernet over Coaxial (EoC) protocol to convert between analog and IP power and data transmissions.

- 1/2.8-in. 2 MP Progressive-scan CMOS Sensor
- Smart H. 265+ and Smart H.264+ Dual Codec
- 2 MP (1920 x 1080) at 30 fps Maximum Resolution
- 2.7 mm to 13.5 mm Motorized Optical Zoom Lens
- Enhanced Starlight Technology
- HDMI Output for Public View/Spot Monitor
- True Wide Dynamic Range (120 dB) and True Day/Night (ICR)
- Enhanced Power and Data Transmission Distances (ePoE)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Maximum IR LED Distance 50 m (164 ft)
- Intelligent Video System
- Five-year Warranty*



Starlight Technology

For challenging low-light applications, Dahua's Starlight low light Technology offers best-in-class light sensitivity, capturing details in low light applications. 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 (WDR)

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.

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 offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

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

The camera complies with the 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 and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.



Lite Series | DH-IPC-HDBW5231EN-ZE-HDMI

Technical Specification

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Camera				
Image Sensor	1/2.8-in. 2 MP Progressive-scan CMOS			
Effective Pixels	1920(H) x 1080	D(∨)		
RAM/ROM	512 MB/32 MB	3		
Scanning System	Progressive			
Electronic Shutter Speed	Auto, Manual,	1/3 s to 1/100,0	000 s	
Minimum Illumination		x at F1.6 (1/3 s, at F1.6 (1/30 s, R on)	,	
S/N Ratio	More than 50 d	dB		
IR Distance	Distance up to	50 m (164.04 ft	:)	
IR On/Off Control	Auto, Manual			
IR LEDs	Three (3)			
Lens				
Lens Type	Motorized			
Mount Type	Board-in			
Focal Length	2.7 mm to 13.5	5 mm		
Maximum Aperture	F1.6			
Angle of View	Horizontal: 101 Vertical: 54° to			
Optical Zoom	5x	5x		
Focus Control	Motorized			
Close Focus Distance	0.30 m (0.98 ft)			
Lens	Detect	Observe	Recognize	Identify
DORI ¹ Distance Wide	44 m (144 ft)	18 m (59 ft)	9 m (29 ft)	4 m (13 ft)
Tele	143 m (469 ft)	57 m (187 ft)	28 m (92 ft)	14 m (46 ft)
Installation Angle				
Range	Pan: 0° to 355° Tilt: 0° to 65° 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	1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)			
	Main Stream: 1080p at 30 fps			
Frame Rate	Sub Stream 1: D1 at 30 fps			
	Sub Stream 2: 1080p at 30 fps			
Bit Rate Control	CBR/VBR			
Bit Rate	H.264: 24 Kbps to 9472 Kbps H.265: 14 Kbps to 5632 Kbps			
Day/Night	Auto (ICR), Color, B/W			
BLC Mode	BLC, HLC, True	WDR (120 dB)		

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.

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	consumption	PoE+		

Lite Series | DH-IPC-HDBW5231EN-ZE-HDMI

Environmental

Operating Temperature	-30° C to +60° C (-22° F to +140° F) Less than 95% RH
Storage Temperature	-30° C to +60° C (-22° F to +140° F) Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10
Construction	
Casing	Metal
Dimensions	ø159.10 mm x 117.90 mm (ø6.26 in. x 4.64 in.)
Net Weight	0.95 kg (2.09 lb)
Gross Weight	1.20 kg (2.65 lb)

Intelligence²

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.
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.

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

Maximum Deres	Maximum De resistance < 10 12/100 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

ePoE Applications

Pure Ethernet



Passive EoC



Ethernet Cable (CAT5E/CAT6)

EoC with Single-port EoC Receiver

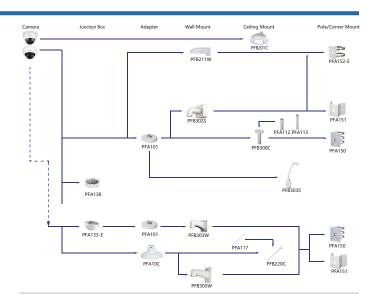


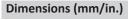
2. The camera disables the HDMI video output if an IVS function is enabled. To restore the HDMI output, users must reboot the camera. Simply disabling the IVS function does not restore the HDMI video output.

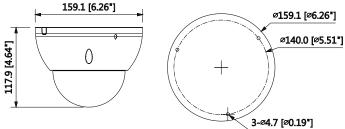
Lite Series | DH-IPC-HDBW5231EN-ZE-HDMI

Ordering Information

TypePart NumberDescription2 MP Network CameraDH-IPC-HDBW5231EN ZE-HDMI2 MP IR ePoE, Vari-focal Dome Network Camera, True WDR, IVSPFA101Mount Adapter (use with PFB300C)PFA101Junction BoxPFA152-EPole MountPFB201CIn-ceiling MountDH-PFB211WWall MountPFB300CCeiling Mount (use with PFA101)DH-PFB210L12 VDC, 2 A Power AdapterHKKD-1110824 VAC, 1.5 A Power AdapterPC-H59-D113.6Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes)ePoE Accessories, optionalLR1002-1ECSingle-port EOC ReceiverSingle-port EOC Receiver	ordering information				
2 MP Network Camera ZE-HDMI Network Camera, True WDR, IVS ZE-HDMI Mount Adapter (use with PFB300C) PFA101 Mount Adapter (use with PFB300C) PFA138 Junction Box PFA152-E Pole Mount PFB201C In-ceiling Mount DH-PFB211W Wall Mount PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) LR1002 EoC Passive Converter	Туре	Part Number	Description		
PFA101(use with PFB300C)PFA138Junction BoxPFA152-EPole MountPFB201CIn-ceiling MountPFB201CIn-ceiling MountDH-PFB211WWall MountPFB300CCeiling MountPFB300CCeiling MountDH-PFM320D-US12 VDC, 2 A Power AdapterHKKD-1110824 VAC, 1.5 A Power AdapterPC-H59-D113.6Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes)ePoE Accessories, optionalLR1002EOC Passive Converter	2 MP Network Camera		,		
Mounting Accessories, optional PFA152-E Pole Mount PFB201C In-ceiling Mount DH-PFB211W Wall Mount PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) EPOE Accessories, optional LR1002 EoC Passive Converter		PFA101			
Mounting Accessories, optional PFB201C In-ceiling Mount DH-PFB211W Wall Mount PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) LR1002 EoC Passive Converter		PFA138	Junction Box		
Mounting Accessories, optional DH-PFB211W Wall Mount PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) ePoE Accessories, optional LR1002 EoC Passive Converter		PFA152-E	Pole Mount		
optional PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) ePoE Accessories, optional LR1002 EoC Passive Converter		PFB201C	In-ceiling Mount		
PFB300C Ceiling Mount (use with PFA101) DH-PFM320D-US 12 VDC, 2 A Power Adapter HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) EPOE Accessories, optional	,	DH-PFB211W	Wall Mount		
HKKD-11108 24 VAC, 1.5 A Power Adapter PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) ePoE Accessories, optional LR1002 EoC Passive Converter	optional	PFB300C	-		
PC-H59-D113.6 Polycarbonate Smoke Tinted Bubble (for Vari-focal Domes) ePoE Accessories, optional		DH-PFM320D-US	12 VDC, 2 A Power Adapter		
ePoE Accessories, optional		HKKD-11108	24 VAC, 1.5 A Power Adapter		
ePoE Accessories,		PC-H59-D113.6			
optional LR1002-1EC Single-port EoC Receiver	· · · · ·	LR1002	EoC Passive Converter		
		LR1002-1EC	Single-port EoC Receiver		







Accessories

Optional:



PFA101 Mount Adapter



PFB201C In-ceiling Mount



LR1002 EoC Passive Converter

LR1002-1EC Single-port EoC Receiver

PFA138

Junction Box

PFB300C

Ceiling Mount



PFA152-E Pole Mount

DH-PFB211W

Wall Mount

DH-PFM320D-US

Power Adapter



HKKD-11108 Power Adapter



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