

DH-IPC-HDBW4231E-S

2MP IR Fixed-focal Dome Network Camera



Series Overview

With advanced H.265 encoding technology, Dahua Pro series network camera has efficient video encoding capacity, which saves bandwidth and storage space. This series camera adopts starlight technology, intelligent IR technology, and intelligent image analysis. It supports dust-proof function, waterproof function and vandal-proof function, complying with the standards of IP67 and IK10 (Supported by some select models).

Functions

Motion Detection

When moving objects appear in the monitoring image, Dahua Motion Detection technology triggers alarm or records.

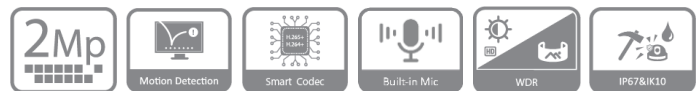
Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

WDR

With advanced Wide Dynamic Range (WDR) technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

- 2-MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 2 MP (1920 × 1080)@25 fps/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 50 m.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Abnormality detection: Motion detection, video tampering, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Supports max. 256 G Micro SD card; built in Mic.
- 12 VDC/PoE power supply, easy for installation.
- IP67 and IK10 protection.



Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

Protection (IP67&IK10, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.

IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).

Wide voltage: The camera allows $\pm 30\%$ (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera	
Image Sensor	1/2.7" CMOS
Max. Resolution	1920 (H) × 1080 (V)
ROM	128 MB
RAM	256 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.002 lux@F1.6 (Color, 30 IRE) 0.0002 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 50 m (164.04 ft) (IR)
Illuminator On/Off Control	Auto
Illuminator Number	3 (IR LED)
Angle Adjustment	Pan: 0°–355° Tilt: 0°–65° Rotation: 0°–355°

Lens					
Lens Type		Fixed-focal			
Lens Mount		M12			
Focal Length		2.8 mm; 3.6 mm; 6 mm			
Max. Aperture		F1.6			
Field of View		2.8 mm: H: 104°; V: 55°; D: 124° 3.6 mm: H: 88°; V: 44°; D: 105° 6 mm: H: 54°; V: 29°; D: 63°			
Iris Control		Fixed			
Close Focus Distance		2.8 mm: 0.8 m (2.62 ft) 3.6 mm: 1.3 m (4.27 ft) 6 mm: 2.6 m (8.53 ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	44.1 m (144.69 ft)	17.7 m (58.07 ft)	8.8 m (28.87 ft)	4.4 m (14.44 ft)
	3.6 mm	58.9 m (193.24 ft)	23.6 m (77.43 ft)	11.8 m (38.71 ft)	5.9 m (19.36 ft)
	6 mm	85.4 m (280.51 ft)	34.2 m (112.20 ft)	17.1 m (56.10 ft)	8.6 m (28.22 ft)
	*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.				

Smart Event	
IVS	Tripwire; intrusion

Video	
Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream)
Smart Codec	Smart H.265+; Smart H.264+

Video Frame Rate	Main stream: 1920 × 1080@(1–25/30 fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) Third stream: 640 × 480@1 fps *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.
Stream Capability	3 streams
Resolution	1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–6144 kbps H.265: 12 kbps–6144 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto;Manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Smart Illumination	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower)
Mirror	Yes
Privacy Masking	4 areas

Audio	
Built-in MIC	Yes, built-in Mic
Audio Compression	G.711a; G.711Mu; PCM; G.726

Alarm	
Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; audio detection; voltage detection; security exception

Network	
Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP ; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; Bonjour; P2P
Interoperability	ONVIF (Profile S; Profile G; Profile T); CGI
User/Host	20 (Total bandwidth: 48 M)
Storage	FTP; SFTP; Micro SD card (support max. 256 GB); NAS
Browser	IE; Chrome; Firefox
Management Software	Smart PSS Lite; DSS; DMSS

Mobile Client	iOS;Android
Cyber Security	Configuration encryption;Trusted execution;Digest;Security logs;WSSE;Account lockout;syslog;Video encryption;802.1x;IP/MAC filtering;HTTPS;Trusted upgrade;Trusted boot;Firmware encryption;Generation and importing of X.509 certification
Certification	
Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU
Power	
Power Supply	12 VDC/PoE
Power Consumption	Basic: 1.6 W (12 VDC); 2.4 W (PoE) Max. (H.265+ intelligence on + WDR + IR on): 4.6 W (12 VDC); 5.6 W (PoE)

Environment

Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Storage Humidity	≤95%
Protection	IP67; IK10

Structure

Casing Material	Metal
Product Dimensions	81.0 mm × Φ109.9 mm (3.19" × Φ4.33")
Net Weight	0.34 kg (0.75 lb)
Gross Weight	0.49 kg (1.08 lb)

Accessories

Optional:



PFA136
Junction Box



PFB203W
Wall Mount Bracket



PFA109
Mount
Adapter



PFB220C
Ceiling Mount
Bracket



PFA152-E
Pole Mount
Bracket



PFA150
Pole Mount
Bracket



DH-PFB305W
Corner Mount



DH-PFA151
Corner Mount



PFA200W
Rain Shade



PFM321D
12 VDC 1 A
Power Adapter



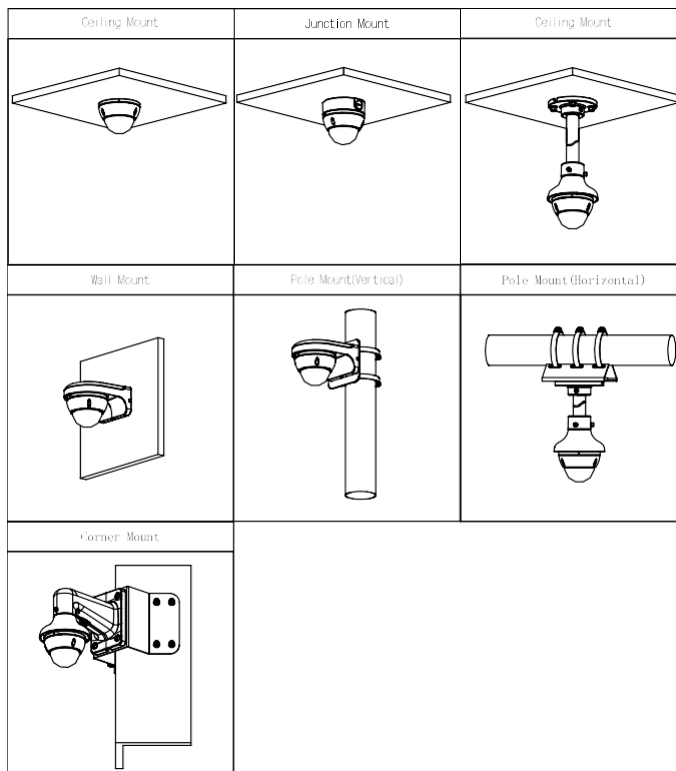
PFM900-E
Integrated
Mount Tester



TF-P100
MicroSD
Memory Card

Ordering Information

Type	Model	Description
2MP Camera	DH-IPC-HDBW4231E-S	2MP IR Fixed-focal Dome Network Camera
Accessories (Optional)	PFA136	Junction Box
	PFB203W	Wall Mount Bracket
	PFA109	Mount Adapter
	PFB220C	Ceiling Mount Bracket
	PFA152-E	Pole Mount Bracket
	PFA150	Pole Mount Bracket
	DH-PFB305W	Corner Mount
	DH-PFA151	Corner Mount
	PFA200W	Rain Shade
	PFM321D	12 VDC 1 A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card



Dimensions (mm[inch])

