![Dahua Technology logo]

2 x 2MP Mobile Dual-sensor Dome Camera
H.265 IR Network Camera

- Two (2) Independent 1/2.8-in. 2 MP STARVIS™ CMOS Sensors
- Dual-stream Encoding per Channel
- H.265 and H.264 Dual Codecs
- 2 MP at 30 fps Maximum Resolution per Sensor
- 2.8 mm Fixed Lens
- M12 D-coded Ethernet Connector
- Basic Starlight Technology for Low Light Sensitivity
- True Wide Dynamic Range (Channel 1) and True Day/Night (ICR)
- Built-in Microphone
- Maximum IR LED Distance 20 m (66 ft) with Smart IR
- EN 50155 Shock and Vibration Certification
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

System Overview

The Dahua DH-IPC-HDBW4231FN-E2-M12 Dual-sensor Mobile Dome Camera features two (2) 1/2.8-in. 2 MP Progressive Scan STARVIS™ CMOS Sensors each with a choice of a 2.8 mm or a 3.6 mm fixed lens. Each sensor can be positioned and configured independently of the other allowing flexible, multi-directional video surveillance that is ideal for monitoring the front and rear of a bus or a train. The camera offers True Wide Dynamic Range, a True Day/Night IR Cut filter, IP67 Ingress protection and operation in extreme temperatures to deliver superior images in all lighting and environmental conditions.

Functions

Design for Mobile Surveillance

The compact housing blends in with most vehicle interiors and minimizes interference with other installed devices. The design also minimizes vibration and shock from normal driving situations. The hardware of the mobile camera is certified to EN50155 to avoid image distortions or connection failures. The camera uses an M12 D-coded Ethernet connector for an added level of stability.

Starlight Technology

For challenging low-light applications, Dahua's Basic Starlight Technology offers best-in-class light sensitivity, capturing details in low light down to 0.009 lux. 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

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology (channel 1 only). 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.

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

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

With a temperature range of −30 °C to +60 °C (−22 °F to +140 °F), the camera is designed for extreme temperature environments. 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 and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

Protection

Supporting ±30% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

Technical Specification

Camera

Image Sensor	Two (2) 1/2.8-in. 2 MP STARVIS™ CMOS Sensors
Effective Pixels	1920(H) x 1080(V)
RAM/ROM	512 MB / 256 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual; 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.009 lux at F2.0 (1/3 s, 30 IRE) Color: 0.07 lux at F2.0 (1/30 s, 30 IRE) 0 lux at F2.0 with IR on
S/N Ratio	More than 50 dB
IR Distance	Distance up to 20.0 m (65.62 ft)
IR On/Off Control	Auto, Manual
IR LEDs	10 per each Sensor

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	2.8 mm or 3.6 mm
Max. Aperture	F2.0
Angle of View	2.8 mm — Horizontal: 110° Vertical: 60°
	3.6 mm — Horizontal: 86° Vertical: 46°
Focus Control	Fixed

DORI[1] Distance

	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
2.8 mm	41 m (134 ft)	16 m (52 ft)	8 m (26 ft)	4 m (13 ft)
3.6 mm	55 m (180 ft)	22 m (72 ft)	11 m (36 ft)	6 m (20 ft)

Installation Angle

Range	Pan: ±90˚ Tilt: 0˚ to 65˚ Rotation: 0˚to 360˚

Video

Compression		H.265, H.264H, MJPEG (Sub Stream)
Streaming Capability		Two (2) Streams per Sensor
Resolution		1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	Channel 1: 1080p at 30 fps Channel 2: 1080p at 30 fps
	Sub Stream	Channel 1: D1 at 30 fps Channel 2: D1 at 30 fps

Bit Rate Control	CBR, VBR
Bit Rate	H.264: 32 to 10240 Kbps H.265: 12 to 6400 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, True WDR (120 dB, channel 1 only)
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional
Gain Control	Auto, Manual, Gain Priority, Shutter Priority
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zone, Rectangle)
Region of Interest	Off, On (4 Zone)
Smart IR	Support
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

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

Network

Ethernet	M12 D-coded Connector (10/100 Base-T)
Protocol	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, Bonjour, 802.1x, Multicast, ICMP, IGMP
Interoperability	ONVIF Profile S&G, API
Streaming Method	Unicast. Multicast
Maximum User Access	10 Users / 20 Users
Edge Storage	Network Attached Storage (NAS) Local PC for Instant Recording Micro SD Card Slot, 128 GB maximum
Web Viewer	Internet Explorer
Management Software	SmartPSS, 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	EN 60950:2000 UL 60950-1
Rolling Stock	EN 50155 (EN 50121-3-2, IEC61373)
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B E-mark (ECE-Regulation No.10)

Interface

Audio	Built-in Microphone

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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.

Electrical

Power Supply	PoE (IEEE 802.3af, Class 0)
Power Consumption	< 6.5 W

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	ø122.0 mm x 66.20 mm (4.80 in. x 2.61 in.)
Net Weight	0.51 kg (1.12 lb)
Gross Weight	0.53 kg (1.17 lb)

Ordering Information

Type	Part Number	Description
Dual-sensor Camera	DH-IPC-HDBW4231FN-E2-M12-2.8mm	2 x 2 MP IR Multi-sensor Dome Network Camera, 2.8 mm, WDR, M12 D-Coded Connector
Accessories, optional	PFA137	Junction Box
	PFA152-E	Pole Mount
	PFB203W	Wall Mount

Accessories

Optional:

PFA137
Junction Box

PFA152-E
Pole Mount

PFB203W
Wall Mount

Dimensions (mm/inch)

⌀122 [⌀4.8"]
3-⌀4.5 [⌀0.18"]
⌀110 [⌀4.33"]

66.2 [2.61"]
39.9 [1.57"]