2MP HDCVI Vari-focal Eyeball Camera

Starlight Technology and True Wide Dynamic Range

- 1/2.8-in. 2 MP Progressive-scan CMOS Sensor
- 2 MP (1920 x 1080) at 30 fps Maximum Resolution
- 2.7 mm to 13.5 mm Motorized Lens
- Starlight Technology for Low-light Applications
- True Wide Dynamic Range (120 dB) and 2D/3D Noise Reduction
- Supports Multiple Video Formats: HDCVI, CVBS, AHD and TVI
- Built-in Microphone
- HD or SD Output, Switchable
- Maximum IR Length 60 m (196 ft), Smart IR
- IP67 Ingress Protection
- Five-year Warranty*

System Overview

Experience the superior clarity of Dahua's 2 MP HDCVI camera for vast coverage and superior image details. The 2 MP HDCVI series leverages existing coax infrastructures to deliver forensic-level images seamlessly and over long distances. The camera offers a motorized zoom lens, a multi-language On-screen Display, and HD/SD switchable output. The camera is ideal for hosting diverse applications — Starlight Technology and True Wide Dynamic Range allow the camera to operate in any lighting condition and the IP67 rating makes the camera suitable for the harshest environments.

Functions

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.

Three Signals over One Coaxial Cable

HDCVI technology simultaneously transmits video, audio, and data over a single coaxial cable. Dual-way data transmission allows the HDCVI camera to communicate with an HCVR to send control signals or to trigger alarms.

Long Distance Transmission

HDCVI technology guarantees real-time transmission over long distances without loss of video quality. HDCVI cameras provide the same resolution as most IP network camera systems using existing RG-59, RG-6, or CAT 6 UTP cabling.

Simplicity

HDCVI technology seamlessly integrates traditional analog surveillance systems with upgraded, high-quality HD video, making it the best choice to protect security investments. The plug and play approach enables full HD video surveillance without the hassles of configuring a network.

Broadcast-quality Audio

Audio information is used as supplementary evidence in video surveillance applications. This HDCVI camera transmits audio signals over the coaxial cable, eliminating the need for separate audio wiring. In addition, the camera uses unique audio processing and transmission technology that eliminates noise to best duplicate source audio, guaranteeing high-quality and highly effective audio information.

Multiple-format Support

The camera supports multiple video formats including, HDCVI, CVBS, AHD, and TVI. The camera can switch between these four formats via the OSD menu or the switch located on the video output cable, making the camera compatible with not only HDCVI DVRs but also most existing HD/SD DVRs.

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. 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.

Protection

The camera is subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating making it suitable for demanding outdoor applications. The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications, and its 4KV lightning rating provides effective protection for both the camera and its structure against lightning.

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

Technical Specification

Camera

Image Sensor	1/2.8-in. CMOS Sensor
Effective Pixels	1920 (H) x 1080 (V), 2 MP
Scanning System	Progressive
Electronic Shutter Speed	1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.004 lux at F1.6, 30 IRE 0 lux at F1.6 with IR On
S/N Ratio	More than 65 dB
IR Distance	Up to 60.0 m (196.85 ft)
IR Control	Auto, Manual
IR LEDs	Two (2)

Lens

Lens Type	Motorized Lens, Fixed Iris
Mount Type	Board-in
Focal Length	2.7 mm to 13.5 mm
Maximum Aperture	F1.6
Angle of View	Horizontal: 108.7° to 28.7°
Close Focus Distance	200.0 mm (7.87 in.)

Installation Angle

Range	Pan: 0° to 360° Tilt: 0° to 78° Rotation: 0° to 360°

DORI Distances[1]

	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
Wide	44 m (144 ft)	18 m (59 ft)	9 m (30 ft)	4 m (13 ft)
Tele	153 m (502 ft)	61 m (200 ft)	31 m (102 ft)	15 m (49 ft)

Video

Maximum Resolution	1080p (1920 x 1080)	
Frame Rate	1080p at 30 fps or 720p at 60 fps	
Video Output	One (1) BNC, Transmits HDCVI High-definition signal or CVBS, AHD or TVI Channel, switchable	
Video Transmission[2]	RG-59/U Coax	720p: 800 m (2624.67 ft) 1080p: 500 m (1640.42 ft)
	RG-6/U Coax	720p: 1200 m (3937.01 ft) 1080p: 800 m (2624.67 ft)
	CAT 6 UTP (balun required)	720p: 450 m (1476.38 ft) 1080p: 300 m (984.25 ft)
Day/Night	Auto (ICR), Manual	
OSD Menu	Multi-language	
BLC Mode	BLC, HLC, True WDR	
WDR	120 dB	
Gain Control	AGC	
Noise Reduction	2D, 3D	
White Balance	Auto, Manual	
Smart IR	Auto, Manual	

Certifications

CE	EN55032 EN55024 EN50130-4
Safety	UL60950-1 CAN/CSA C22.2 No.60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 subpart B, ANSI C63.4-2014

Interface

Audio[3]	Input: One (1) Channel, RCA Jack, plus One (1) Built-in Microphone

Electrical

Power Supply	24 VAC ± 30% or 12 VDC ± 30%
Power Consumption	Maximum 6.9 W (IR On)

Environmental

Operating Conditions	–40° C to +60° C (–40° F to +140° F) Less than 90% RH *Initiate start up above –40° C (–40° F)
Storage Conditions	–40° C to +60° C (–40° F to +140° F) Less than 90% RH
Ingress Protection	IP67

Construction

Casing	Aluminium
Dimensions	ø122.0 mm x 104.0 mm (ø4.80 in. x 4.09 in.)
Net Weight	0.63 kg (1.39 lb)
Gross Weight	0.83 kg (1.83 lb)

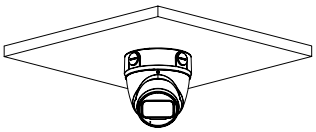
1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 , the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.
2. Transmission distance results verified by real-scene testing in Dahua's test laboratory. Actual transmission distances may vary due to external influences, cable quality, and wiring structures.
3. The default audio input is via the built-in microphone; users must access the Advanced menu to switch the audio input to the cable option. The camera accepts audio from only one input source.

Ordering Information

Type	Part Number	Description
2 MP Camera	A22CJAZ	2 MP Starlight 2.7 mm to 13.5 mm Vari-focal Lens Eyeball Camera, True WDR
Accessories, optional	PFA106	Mount Adapter (For use with PFB305W or PFB220C)
	PFA130-E	Junction Box (For use alone)
	PFA137	Junction Box (For use alone)
	PFA151	Corner Mount (For use with PFA106 and PFB305W)
	PFA152-E	Pole Mount (For use with PFB203W wall mount)
	PFB220C	Ceiling Mount (For use with PFA106 mount adapter)
	PFB203W	Wall Mount (For use alone or with PFA152-E pole mount)
	PFB305W	Wall Mount (For use with PFA106 mount adapter)
	PFM800-E	Passive HDCVI Balun
	DH-PFM321D-US	12 VDC, 1 A Power Adapter
	DH-PFM320D-US	12 VDC, 2 A Power Adapter
Audio Accessories, optional	HAP100	Pinhole Pickup
	HAP200	High-fidelity Pickup

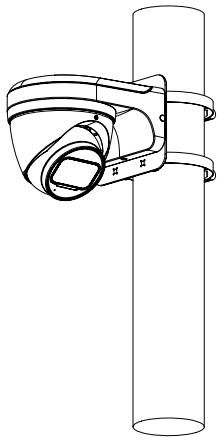
Junction Mount

PFA130-E



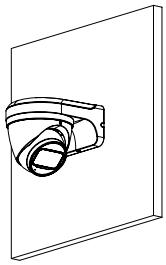
Pole Mount

PFB203W + PFA152-E

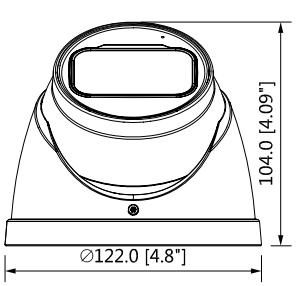


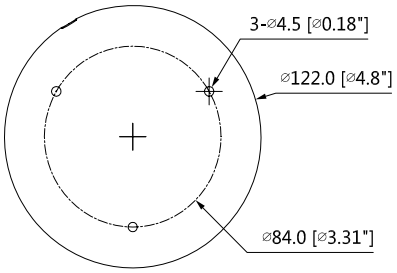
Wall Mount

PFB203W



Dimensions (mm/in.)

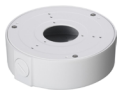




Accessories

Optional:

PFA106
Mount Adapter



PFA130-E
Junction Box

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PFA151
Corner Mount

PFA152-E
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PFB203W
Wall Mount

PFB220C
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PFM800-E
Passive HDCVI Balun

DH-PFM320D-US
Power Adapter

DH-PFM321D-US
Power Adapter

HAP100
Pinhole Pickup

HAP200
High-fidelity Pickup

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