5MP HDCVI Vari-focal Eyeball Camera
Starlight IR Camera with 16:9 Aspect Ratio

- 1/2.7-in. 5MP Progressive-scan CMOS Sensor
- 5MP (2880 x 1620) at 25 fps Maximum Resolution
- 2.7 mm to 13.5 mm Motorized Vari-focal Lens
- 16:9 Aspect Ratio for no Image Stretching
- Starlight Technology for Low-light Applications
- True Wide Dynamic Range (120 dB) and 3D Noise Reduction
- Built-in Microphone
- HDCVI, AHD, TVI, or CVBS Output, Switchable
- Maximum IR Length 60 m (196.85 ft), Smart IR
- IP67 Ingress Protection
- Five-year Warranty*

System Overview

Experience the superior clarity of Dahua's 5MP HDCVI cameras for vast coverage and superior image details. The 5MP HDCVI series leverages existing coax infrastructures to deliver forensic-level images seamlessly and over long distances. The HDCVI camera offers multiple output formats that are easily switchable and a 16:9 aspect ratio. With a 16:9 format, images maintain a true, undistorted view without stretching, a feature not found on many 5MP HD over coax cameras. The camera is suitable for most applications, offering IR illumination for difficult lighting conditions, input voltage tolerance for inconsistent power supplies, and IP67 certification for operation in harsh outdoor environmental conditions.

Functions

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 HDCVI DVR to send control signals or to trigger alarms.

Starlight Technology
For challenging low-light applications, Dahua's Starlight Technology captures 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.

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 security 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 security without the hassles of configuring a network.

Smart IR
With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of the camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high-performance in extreme low-light environments.

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 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 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.

Technical Specification

Camera

Image Sensor	1/2.7-in. CMOS Sensor
Effective Pixels	2880 (H) x 1620 (V), 5MP
Aspect Ratio[1]	16:9
Scanning System	Progressive
Electronic Shutter Speed	1/4 s to 1/100,000 s
Minimum Illumination	Color: 0.001 lux at F1.6, 30 IRE 0 lux with IR on
S/N Ratio	More than 65 dB
IR Distance	Up to 60.0 m (196.85 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Two (2)

Lens

Lens Type	Motorized Vari-focal
Mount Type	ø14
Focal Length	2.7 mm to 13.5 mm
Maximum Aperture	F1.6
Angle of View	Horizontal: 31.4° to 113.0° Vertical: 17.6° to 58.0° Diagonal: 36° to 138.0°
Iris Type	Fixed
Close Focus Distance	800 mm (31.50 in.)

Installation Angle

Range	Pan: 0° to 355° Tilt: 0° to 75° Rotation: 0° to 355°

DORI Distances[2]

	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
Tele	64.0 m (210.0 ft)	25.60 m (84.0 ft)	12.80 m (42.0 ft)	6.40 m (21.0 ft)
Wide	210.0 m (689.0 ft)	84.0 m (275.59 ft)	42.0 m (137.80 ft)	21.0 m (68.90)

Video

Resolution Output		5MP (2880 x 1620), 4MP (2560 x 1440), 1080p (1920 x 1080), 720p (1280 x 720), 960H (960 x 480), D1 (704 x 480), CIF (352 x 240)
Maximum Frame Rate	HDCVI	5MP at 25 fps, 4MP at 30 fps, 1080p at 30 fps
	AHD	4MP at 30 fps
	TVI	4MP at 30 fps
	CVBS	960H at 30 fps
Video Output		One (1) BNC Output, HDCVI, AHD, TVI, CVBS switchable

Video Transmission[3]	RG-59/U Coax	720p: 800 m (2624.67 ft) 1080p: 500 m (1640.42 ft) 5MP: 500 m (1640.42 ft)
	RG-6/U Coax	720p: 1200 m (3937.01 ft) 1080p: 800 m (2624.67 ft) 5MP: 700 m (2296.59 ft)
	CAT 6 UTP (balun required)	720p: 450 m (1476.38 ft) 1080p: 300 m (984.25 ft) 5MP: 300 m (984.25 ft)

Day/Night	Auto (ICR)
OSD Menu	Multi-language
BLC Mode	BLC, HLC, HLC-Pro, True WDR
WDR	120 dB
Gain Control	Auto, Manual
Noise Reduction	3D NR
White Balance	Auto, Manual
Advanced Features	Smart IR, Mirror
Privacy Masking	Off, On (8 Areas, rectangular)

Certifications

CE	EN55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN55024:2010+A1:2015, EN 55035:2017, EN50130-4:2011+A1:2014,
Safety	UL60950-1 EN 62368-1:2014+A11:2017 CAN/CSA C22.2 No.60950-1
Electromagnetic Compatibility (EMC)	CFR 47 FCC Part 15 subpart B ANSI C63.4-2014

Interface

Audio	One (1) Built-in Microphone

Electrical

Power Supply	24 VAC ±25% or 12 VDC ±10%
Power Consumption	Maximum 9.5 W (12 VDC, IR on)

Environmental

Operating Conditions	−30° C to +60° C (−22° F to +140° F) Less than 95% RH, non condensing
Storage Conditions	−30° C to +60° C (−22° F to +140° F) Less than 95% RH, non condensing
Ingress Protection	IP67

Construction

Casing	Metal
Dimensions	ø122.0 mm x 104.80 mm (ø4.80 in. x 4.13 in.)
Net Weight	0.63 kg (1.40 lb)
Gross Weight	0.79 kg (1.70 lb)

1. To view the 16:9 video output on a Dahua HDCVI DVR you must update the DVR to the latest firmware. Obtain the latest firmware on the Dahua Wiki at https://dahuawiki.com/Recorders.
2. 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.
3. 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.
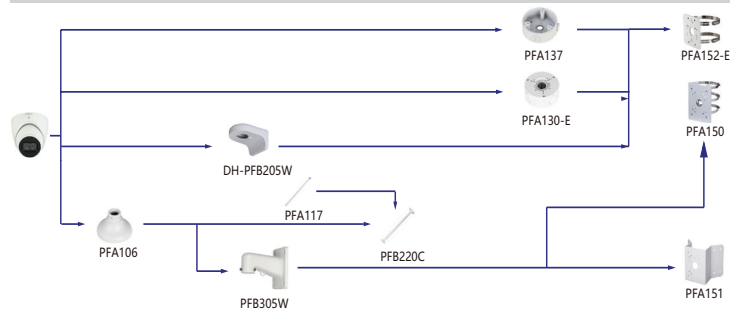
Ordering Information

Type	Part Number	Description
5MP HDCVI Camera	A52BJAZ	5MP Starlight HDCVI IR Vari-focal Lens Eyeball Camera, 16:9 Aspect Ratio
Accessories, optional	PFA106	Mount Adapter
	PFA117	Extension Pole for PFB220C
	PFA130-E	Junction Box
	PFA137	Junction Box
	PFA150	Corner Mount (use with PFA106 and PFB305W)
	PFA151	Corner Mount (use with PFA106 and PFB305W)
	PFA152-E	Pole Mount (use with DH-PFB205W, PFA130-E, or PFA137)
	DH-PFB205W	Wall Mount
	PFB220C	Ceiling Mount (use with PFA106)
	PFB305W	Wall Mount (use with PFA106)
	DH-PFM321D-US	12 VDC, 1 A Power Adapter
	DH-PFM800-4K	4K Passive HDCVI Balun

Accessories

Optional:

PFA106
Mount Adapter

PFA130-E
Junction Box

PFA137
Junction Box

PFA151
Corner Mount

PFA152-E
Pole Mount

DH-PFB205W
Waterproof Wall Mount

PFB220C
Ceiling Mount

PFA117
Extension Pole for PFB220C

PFB305W
Wall Mount

DH-PFM321D-US
12 VDC, 1 A Power Adapter

DH-PFM800-4K
Passive HDCVI Balun

Mounting Diagram

Dimensions (mm/in.)

104.8 [4.13]

⌀122.0 [⌀4.8]

⌀84.0 [⌀3.31]

3−⌀4.5 [⌀0.18]