

5MP HDCVI Vari-focal Dome 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
- HDCVI, AHD, TVI, or CVBS Output, Switchable
- Maximum IR Length 30 m (98.43 ft), Smart IR
- IP67 Ingress Protection and IK10 Vandal Resistance
- 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

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 complies with the IK10 vandal resistance 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). 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 30.0 m (98.43 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°
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DORI Distances²

	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
CVBS	4MP 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

Electrical

Power Supply	24 VAC ±25% or 12 VDC ±10%
Power Consumption	Maximum 8.7 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
Vandal Resistance	IK10

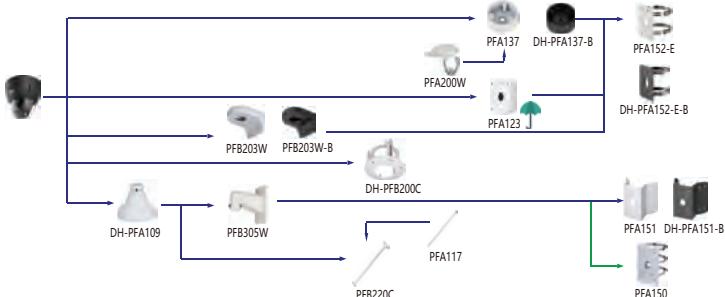
Construction

Casing	Metal
Dimensions	ø122.0 mm x 88.90 mm (ø4.80 in. x 3.50 in.)
Net Weight	0.47 kg (1.04 lb)
Gross Weight	0.64 kg (1.40 lb)

- 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>.
- 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.
- 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			Accessories
Type	Part Number	Description	Optional:
Accessories, optional	A52BMAZ-B	5MP Starlight HDCVI IR Vari-focal Lens Dome Camera, 16:9 Aspect Ratio, Black Housing	 DH-PFA109 Mount Adapter
	DH-PFA109	Mount Adapter	 PFA123 Junction Box
	PFA117	Extension Pole for PFB220C	 PFA137-B Junction Box
	PFA123	Waterproof Junction Box	 PFA151-B Corner Mount
	PFA137	Junction Box	 PFA152-E-B Pole Mount
	PFA150	Corner Mount (use with DH-PFA109 and PFB305W)	 PFA200W Sun/Rain Shield
	PFA151-B	Corner Mount, Black (use with DH-PFA109 and PFB305W)	 PFB200C In-ceiling Mount
	PFA152-E-B	Pole Mount, Black (use with PFB203W, PFA123, or PFA137)	 PFB203W-B Waterproof Wall Mount
	PFA200W	Sun/Rain Shield	 PFB220C Ceiling Mount
	DH-PFB200C	In-ceiling Mount	 PFA117 Extension Pole for PFB220C
	PFB203W-B	Wall Mount, Black	 PFB305W Wall Mount
	PFB220C	Ceiling Mount (use with DH-PFA109)	 PC-H49.D90 Polycarbonate Smoke Tinted Bubble
	PFB305W	Wall Mount (use with DH-PFA109)	 DH-PFM321D-US 12 VDC, 1 A Power Adapter
	PC-H49.D90	Polycarbonate Smoke Tinted Bubble	 DH-PFM800-4K Passive HDCVI Balun
	DH-PFM321D-US	12 VDC, 1 A Power Adapter	 DH-PFM800-4K Passive HDCVI Balun
	DH-PFM800-4K	4K Passive HDCVI Balun	 PC-H49.D90 Polycarbonate Smoke Tinted Bubble

Mounting Diagram



Dimensions (mm/in.)

