DAHUA TECHNOLOGY

2MP HDCVI IR Eyeball Camera
2.8 mm IR Eyeball Camera with Smart IR and Multi-format Support

HDCVI

- 1/2.7-in. 1080p Progressive-scan CMOS Sensor
- 2MP (1920 x 1080) at 30 fps Maximum Resolution
- 2.8 mm Fixed Lens
- Supports Multiple Video Formats: HDCVI, CVBS, AHD and TVI
- ArcticPro Series Camera — Operational down to –40° C (–40° F)
- Maximum IR Length 30 m (98 ft), Smart IR
- IP67 Ingress Protection
- Five-year Warranty*

Lite Series | 1080p FULL HD | 30m IR | DC 12V | IP67 | Temperature

System Overview

The 2MP HDCVI IR Eyeball camera leverages existing coax infrastructures to deliver forensic-level images seamlessly and over long distances. The camera uses next-generation ISP chip technology developed by Dahua to deliver stunning video and broadcast-quality audio. This home-grown ISP features the latest image processing algorithms and is optimized for security camera operations. With total control of the ISP features and production, Dahua can offer the latest security systems at a cost-effective price.

Functions

Four 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 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
The camera is designed with microcrystalline LED IR illumination for low-light performance. Smart IR is a technology to ensure brightness uniformity in black and white images under low illumination. Dahua's unique Smart IR adjusts to the intensity of the camera's infrared LEDs to compensate for the distance of an object, and prevents IR LEDs from overexposing images as the object come closer to the camera.

ArcticPro (with heater)
The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components, a waterproof enclosure, and an integrated heater to ensure flawless operation in temperatures as low as –40° C (–40° F). For applications that demand high-resolution video with advanced features in extremely cold environments, the Dahua ArcticPro Series offers a camera to satisfy the most demanding requirements.

Multi-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.

Environmental
With a built-in heater and a temperature range of –40° C to +60° C (–40° F to +140° F), the cameras are designed for extreme temperature environments. The cameras, subjected to rigorous dust and water immersion tests, are certified to the IP67 rating making them suitable for demanding outdoor applications.

Technical Specification

Camera

Image Sensor	1/2.7-in. CMOS
Effective Pixels	1920 (H) x 1280 (V), 2MP
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/25 s–1/100, 000 s
Minimum Illumination	Color: 0.02 Lux at F1.9 (30 IRE) 0 Lux with IR on
S/N Ratio	More than 65 dB
IR Distance	Up to 30 m (98.04 ft)
IR On/Off Control	Auto, Manual
IR LEDs	One (1) IR Light

Lens

Lens Type	Fixed Lens / Fixed Iris
Mount Type	M12
Focal Length	2.8 mm
Maximum Aperture	F2.0
Angle of View	Horizontal: 102°, Vertical: 54°, Diagonal: 120°
Close Focus Distance	0.5 m (1.6 ft)

DORI[1] Distance

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
37 m (121 ft)	15 m (49 ft)	8 m (26 ft)	4 m (13 ft)

Installation Angle

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

Video

Resolution	1080p (1920 × 1080); 720p (1280 × 720); 960H (960 × 480)	
Frame Rate	CVI: 1080p at 30 fps; 720p at 30 fps AHD: 1080p at 30 fps; 720p at 30 fps TVI: 1080p at 30 fps; 720p at 30 fps CVBS: 960H	
Video Output	One (1) BNC HDCVI High-definition Channel or One (1) BNC 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, DWDR	
WDR	Digital WDR	
Gain Control	AGCI	
Noise Reduction	2D	
White Balance	Auto, Manual	
Smart IR	Auto, Manual	
Mirror	Off, On	
Privacy Masking	Off, On (8 Area, Rectangle)	

Certifications

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

Electrical

Power Supply	12 VDC ±30%
Power Consumption	Maximum 2.9 W (12 VDC with IR on)

Environmental

Operating Conditions	−40° C to +60° C (−40° F to +140° F), Less than 90% RH
Storage Conditions	−40° C to +60° C (−40° F to +140° F), Less than 90% RH
Ingress Protection	IP67

Construction

Casing	Aluminium
Dimensions	φ94.0 mm × 85.7 mm (φ3.70 in. x 3.37 in.)
Net Weight	0.33 kg (0.73 lb)
Gross Weight	0.47 kg (1.04 lb)

1. The DORI distance is a "general proximity" of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively
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.

Ordering Information

Type	Part Number	Description
1080p HDCVI Camera	A21BJ02	1080p HDCVI 2.8 mm Eyeball Camera, Smart IR
Accessories, optional	DH-PFA13A-E	Junction Box
	DH-PFB205W-E	Wall Mount Bracket
	PFA152-E	Pole Mount
	PFA106	Mount Adapter
	PFB220C	Ceiling Mount
	PFM800-E	Passive HDCVI Balun
	DH-PFM321D-US	12V 1A Power Adapter

Accessories (Optional)

DH-PFA13A-E
Junction Box

DH-PFB205W-E
Wall Mount
Bracket

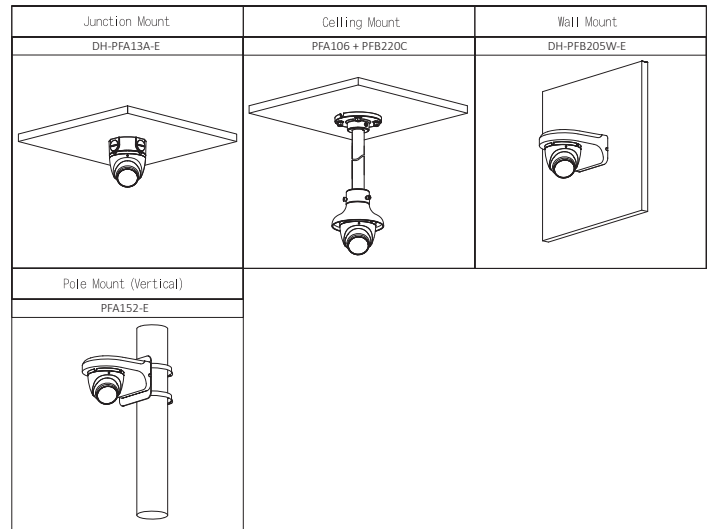PFA152-E
Pole Mount

PFA106
Mount Adapter

PFB220C
Ceiling Mount

PFM800-E
Passive HDCVI Balun

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

Junction Mount	Ceiling Mount	Wall Mount
DH-PFA13A-E	PFA106 + PFB220C	DH-PFB205W-E

Pole Mount (Vertical)		
PFA152-E		

Dimensions

mm [in.]

110.9 [4.37]

3-⌀4.5 [⌀0.18]

⌀84.0 [⌀3.31]

⌀122.0 [⌀4.80]