DH-XVR1B04H-I

4CH Penta-brid 5MP Value/1080P Cooper 1U 1HDD WizSense Digital Video Recorder



Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

Series Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, Cooper-I Series featuring max.full-channel SMD Plus to benefit customers from AI upgrade (The number of channels differs depending on the model. Please refer to the specifications below for information on the number of channels.). This series has been developed to reduce false-alarm rates and the cost of human surveillance, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

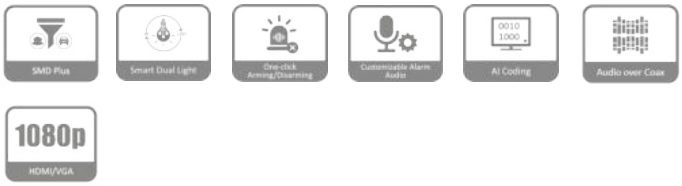
Functions

SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

* *The information below only applies to hardware version 2.0 of the product.*

- 4-channel SMD Plus for analog channels which allows the device to trigger accurate alarms for humans and vehicles.
- 4-channel AI Coding saves on storage and bandwidth while maintaining the details of targets in videos.
- Supports HDCVI, AHD, TVI, CVBS and IP video input.
- Supports up to 6-channel IP camera input and each channel can be up to 6 MP. The incoming bandwidth reaches 32 Mbps.
- Smart H.265+ and H.265 dual-stream video compression.



Smart Dual Light

With Smart Dual Light technology, you can select Smart Illumination Mode for the system to automatically switch between IR mode and white light mode. It allows white light to be turned on when a target is detected by the SMD Plus/Perimeter Protection function of AI-enabled XVR. This significantly reduces light pollution at night. Together with other modes, including IR Mode and White Light Mode, the smart dual light technology can meet the requirements of a wide variety of scenes.

One-click Arming/Disarming

With just one click, you can enable or disable alarm linkages to show messages, send emails, output audio alarms and more, through the mobile app and platform.

Customizable Alarm Audio

Designed for your convenience, the TiOC alarm can be customized to meet your needs. It is flexible, allowing you to directly upload your customized audio through the mobile app and XVR.

AI Coding

Compared with H.265/H.264, AI coding can reduce more than 50% bit rate and storage requirements without loss of decoding compatibility, providing clear human and vehicle details.

Audio over Coax

The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

Technical Specification

System

Main Processor	Industrial-grade processor
Operating System	Embedded Linux
Operating Interface	Web; Local GUI

SMD Plus

SMD Plus by Recorder	4 channels: Secondary filtering for human and vehicle, reducing false alarms caused by leaves, rain and lighting condition change

Audio and Video

Analog Camera Input	4 BNC ports, supports HDCVI/AHD/TVI/CVBS auto-detect
Camera Input	1. CVI: 5 MP@25 fps; 5 MP@20 fps; 5 MP@10/12.5 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@50/60 fps; 720p@25/30fps. 2. TVI: 5 MP@20 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps. 3. AHD: 5 MP@20 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps.
IP Camera Input	Up to 6 channels of IPC access 2 IP channels by default + 4 channels (analog channels are converted to IP channels) Incoming bandwidth: 32 Mbps, recording bandwidth: 32 Mbps and outgoing bandwidth: 32 Mbps *After IP extension is enabled, the AI Function (SMD) will be disabled.
Encoding Capacity	Main stream: 5 MP Mode: 1-ch 5 MP@(1 fps-6 fps); others 5M-N@(1 fps-12 fps) 5M-N Mode: 5M-N@(1 fps –12 fps); 4M-N/1080p@(1 fps–15 fps); 1080N/720p/960H/D1/CIF@(1 fps–25/30 fps) Sub stream: D1/CIF@(1 fps–15 fps)
Dual-stream	Yes
Video Bit Rate	32 kbps–6144 kbps
Audio Sampling	8 kHz, 16 bit
Audio Bit Rate	64 kbps
Video Output	1 HDMI, 1 VGA HDMI: 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720
Multi-screen Display	When IP extension mode not enabled: 1/4 When IP extension mode enabled: 1/4/6
Third-party Camera Access	Panasonic; Sony; Hanwha; Axis; Arecont; ONVIF

Compression Standard

Video Compression	AI Coding; Smart H.265+; H.265; Smart H.264+; H.264
Audio Compression	G.711a; G.711u; PCM

Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; IPv6; RTSP; UDP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; FTP; DDNS; SNMP; Alarm Server; P2P; Auto Registration; IP Search (Supports IP camera, DVR, NVS, etc.)
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 22.12 (Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE; Safari; Edge; Firefox

Recording Playback

Record Mode	General; alarm; motion detection
Recording Playback	1/4
Backup Method	USB device and network
Playback Mode	Instant playback; general playback; event playback; tag playback; smart playback

Alarm

General Alarm	Motion detection; HDCVI alarm; camera external alarm; network alarm; PIR alarm
Anomaly Alarm	Error (no disk, disk error, low space, low quota space; network disconnection; IP conflict; MAC conflict); video loss; video tampering; camera offline
Intelligent Alarm	SMD Plus
Alarm Linkage	Record; snapshot (panoramic); IPC external alarm output; audio; buzzer; log; preset; email

Ports

Audio Input	1-channel RCA 4-channel BNC (Coaxial Audio)
Audio Output	1-channel RCA
Two-way Talk	Yes (share the same audio input with the first channel)
Disk Interface	1 SATA port, up to 16 TB. This limit varies depending on the environment temperature.
USB	2 (2 rear USB 2.0 ports)
HDMI	1
VGA	1
Network Port	1 (10/100 Mbps Ethernet port, RJ-45)

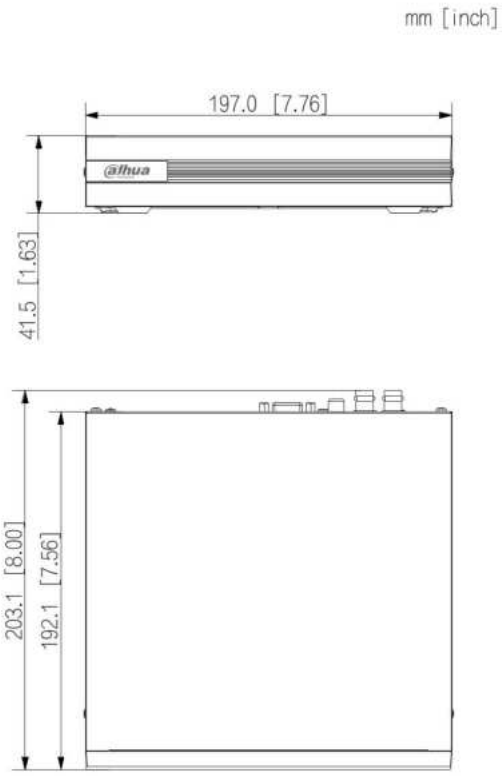
General

Power Supply	12 VDC, 1.5 A
Power Consumption	<4 W (without HDD)
Net Weight	0.55 kg (1.21 lb)
Gross Weight	1.02 kg (2.25 lb)
Product Dimensions	197.0 mm × 203.1 mm × 41.5 mm (7.76" × 8.00" × 1.63") (W × D × H)
Packaging Dimensions	332.0 mm × 240.0 mm × 64.0 mm (13.07" × 9.45" × 2.52") (W × D × H)
Operating Temperature	–10 °C to +45 °C (+14 °F to +113 °F)
Storage Temperature	–20 °C to +60 °C (–4 °F to +140 °F)
Operating Humidity	10%–90% (RH), non-condensing
Installation	Desktop
Certifications	CE-LVD: IEC 62368-1:2014 CE-EMC: EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, EN 55032:2015+A11:2020, EN 55035:2017+A11:2020, EN 55024:2010+A1:2015, EN 50130-4:2011+A1:2014 FCC: 47 CFR Part 15, Subpart B

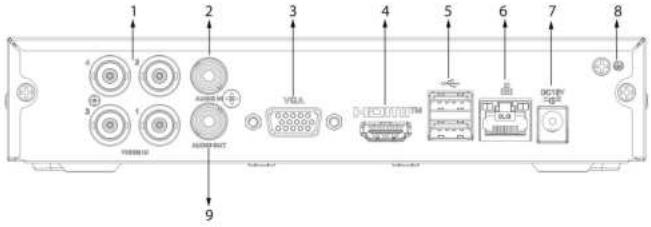
Ordering Information

Type	Part Number	Description
DIGITAL VIDEO RECORDER	DH-XVR1B04H-I	4CH Penta-brid 5MP Value/ 1080P Cooper 1U 1HDD WizSense Digital Video Recorder

Dimensions (mm[inch])



Panels



1 VIDEO IN
2 AUDIO IN, RCA Connector
3 VGA Port
4 HDMI Port
5 USB Ports
6 Network Port
7 Power Input
8 Ground
9 AUDIO OUT, RCA Connector

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DH-HAC-B1A21-U-A

2MP Smart IR HDCVI Fixed-focal Bullet Camera



* In order to use the HDCVI camera, the firmware of XVR must be upgraded to V4.001.0000004.1.R.220323 or later version.

Max. 30 fps@1080p.

Smart IR Illumination.

30 m illumination distance.

Built-in MIC.

3.6 mm fixed lens (2.8 mm,6 mm optional).

CVI/CVBS/AHD/TVI switchable.

IP67, 12 VDC.



Series Overview

The Cooper Series offers simple and highly cost-effective HDCVI solutions. It provides 24/7 reliable monitoring with high-quality image performance, saving cost on both material and labor force. It is also designed and built to the specific standards of Dahua.

Functions

Smart IR Illumination

With its IR illumination, the camera provides optimal performance in low light conditions, ensuring uniformity in the brightness of B/W images. Through its smart IR technology, the camera also compensates for the distance of targets by adjusting the intensity of its IR LEDs, preventing overexposure of images as targets move closer to the camera.

Broadcast-quality Audio

Audio signal transmission over coaxial cables is supported by the HDCVI camera. It adopts a unique audio processing and transmission technology that restores source audio and eliminates noise, ensuring the quality and reliability of the audio information that is collected. This becomes important for video surveillance applications that use audio information as a type of supplementary evidence.

Protection (IP67, Wide Voltage)

IP67: The camera passed a series of rigorous dust and immersion tests. Its enclosure is both dust-proof and waterproof, and can function normally while being immersed in 1 m deep water for up to 30 minutes.
Wide voltage: The camera has ±30% input voltage tolerance (for some power supplies) and a wide voltage range, making it suitable for a variety of outdoor scenarios.

4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals (video, audio*, data and power) which are simultaneously transmitted over a coaxial cable. Dual-way data transmission allows the HDCVI camera to interact with the XVR to perform various actions such as sending control signals and triggering alarms. HDCVI technology also supports PoC, which makes the camera easy and quick to install.

* Audio input is available for select HDCVI camera models.

Long Distance Transmission

HDCVI technology provides long distance transmission in real time without transmission loss. It supports transmission distances up to 700 m for 2-MP/5-MP/8-MP HD videos through coaxial cables, and up to 300 m through UTP cables. The results were obtained and verified through rigorous testing in Dahua's test laboratory.

Simplicity

HDCVI technology inherits the simplicity of traditional analog surveillance systems, making it a great mechanism for protecting your valuables. HDCVI can be upgraded from the traditional analog system without replacing the existing coaxial cabling. Its plug and play design enables it to produce high-definition videos during surveillance without the hassle of configuring a network.

Technical Specification

Camera

Image Sensor	2 MP CMOS
Max. Resolution	1920 (H) × 1080 (V)
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/25 s–1/100,000 s; NTSC: 1/30 s–1/100,000 s
Min. Illumination	0.02 lux@F2.0 (Color, 30 IRE); 0.002 lux@F2.0 (B/W, 30 IRE); 0 lux (Illuminator on)
S/N Ratio	>65 dB
Illumination Distance	IR: 30 m (98.43 ft);
Illuminator On/Off Control	Auto; Manual
Illuminator Number	IR light
Angle Adjustment	Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal
Lens Mount	M12
Focal Length	2.8 mm; 3.6 mm; 6 mm
Max. Aperture	F2.0
Field of View	2.8 mm: H: 100°; V: 54°; D: 117° 3.6 mm: H: 80°; V: 43°; D: 94° 6 mm: H: 43°; V: 24°; D: 50°
Iris Control	Fixed
Close Focus Distance	2.8 mm: 0.5 m (1.64 ft) 3.6 mm: 0.8 m (2.62 ft) 6 mm: 2.4 m (7.87 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	2.8 mm	44.7 m (146.65 ft)	17.9 m (58.73 ft)	8.9 m (29.20 ft)	4.5 m (14.76 ft)
	3.6 mm	55.0 m (180.45 ft)	22.0 m (72.18 ft)	11.0 m (36.09 ft)	5.5 m (18.04 ft)
	6 mm	102.9 m (337.60 ft)	41.1 m (134.84 ft)	20.6 m (67.59 ft)	10.3 m (33.79 ft)

*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/ project design tool.

Video

Video Frame Rate	CVI: PAL: 1080p@25 fps NTSC: 1080p@30 fps AHD: PAL: 1080p@25 fps NTSC: 1080p@30 fps TVI: PAL: 1080p@25 fps NTSC: 1080p@30 fps CVBS: PAL: 960H NTSC: 960H
Resolution	1080p (1920 × 1080); 960H (960 × 576/960 × 480)
Day/Night	Auto(ICR)/Color/B/W
BLC	BLC; HLC; DWDR
WDR	DWDR
White Balance	Auto;Area white balance
Gain Control	Auto;Manual
Noise Reduction	2D NR
Illumination Mode	Smart IR Mode
Mirror	Yes
Privacy Masking	Off/On (8 areas, rectangle)

Certification

Certifications	CE-LVD: EN 62368-1; CE-EMC: EN 55032; EN 55035

Port

Video Output	Video output choices of CVI/TVI/AHD/CVBS by one BNC port
Audio Input	One channel built-in Mic

Power

Power Supply	12 VDC ± 30%
Power Consumption	Max 2.8 W (12 VDC, LED on)

Environment

Operating Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Operating Humidity	<95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	<95% (RH), non-condensing
Protection	IP67
Anti-corrosion Level	Basic Protection

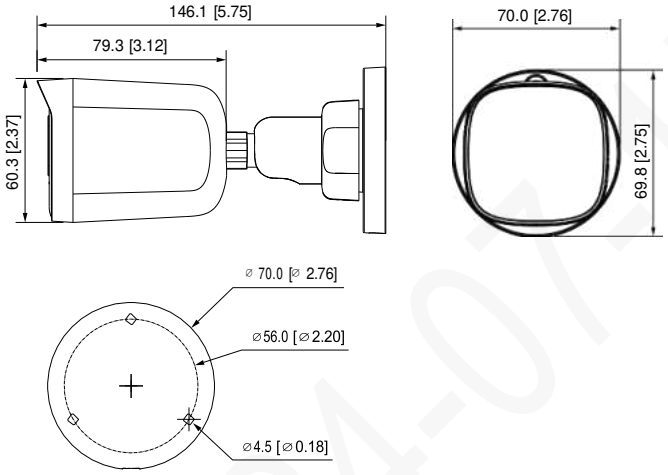
Structure

Casing Material	Plastic
Product Dimensions	146.1 mm × 70.0 mm × 69.8 mm (5.75" × 2.76" × 2.75")
Net Weight	0.15 kg (0.33 lb)
Gross Weight	0.23 kg (0.51 lb)
Installation	Wall mount; ceiling mount; vertical pole mount

Ordering Information

Type	Model	Description
2MP Camera	DH-HAC-B1A21P-U-A	2MP IR HDCVI Fixed- focal Bullet Camera, PAL
	DH-HAC-B1A21N-U-A	2MP HDCVI Fixed- focal Bullet Camera, NTSC
Accessories (Optional)	PFA134	Junction Box
	PFA130-E	Water-proof Junction Box
	PFA152-E	Pole Mount Bracket
	PFM321D	12V 1A Power Adapter
	PFM800-E	Passive HDCVI Balun
	PFM904	Integrated Mount Tester

Dimensions (mm[inch])



Accessories

Optional:



PFA134
Junction Box



PFA130-E
Water-proof Junction Box



PFA152-E
Pole Mount Bracket



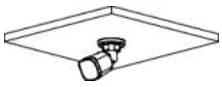
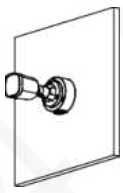
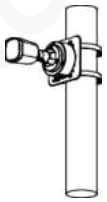
PFM321D
12V 1A Power Adapter



PFM800-E
Passive HDCVI Balun



PFM904
Integrated Mount Tester

Ceiling Mount	Junction Mount	Pole Mount(Vertical)
		

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DH-HAC-T1A21-U-A

2MP Smart IR HDCVI Fixed-focal Eyeball Camera



- Max. 30 fps@1080p.
- Smart IR.
- 25 m illumination distance.
- Built-in MIC.
- Quick-to-install eyeball saves installation time.
- 2.8 mm fixed lens (3.6 mm optional).
- CVI/CVBS/AHD/TVI switchable.



Series Overview

The Cooper Series offers simple and highly cost-effective HDCVI solutions. It provides 24/7 reliable monitoring with high-quality image performance, saving cost on both material and labor force. It is also designed and built to the specific standards of Dahua.

Functions

Smart IR Illumination

With its IR illumination, the camera provides optimal performance in low Light conditions, ensuring uniformity in the brightness of B/W images. Through its smart IR technology, the camera also compensates for the distance of targets by adjusting the intensity of its IR LEDs, preventing overexposure of images as targets move closer to the camera.

Easy Installation

HDCVI eyeball comes with a quick-to-install pedestal, which makes it easier to install than conventional eyeballs and reduces cost on time and labor.

Broadcast-quality Audio

Audio signal transmission over coaxial cables is supported by the HDCVI camera. It adopts a unique audio processing and transmission technology that restores source audio and eliminates noise, ensuring the quality and reliability of the audio information that is collected. This becomes important for video surveillance applications that use audio information as a type of supplementary evidence.

4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals (video, audio*, data and power) which are simultaneously transmitted over a coaxial cable. Dual-way data transmission allows the HDCVI camera to interact with the XVR to perform various actions such as sending control signals and triggering alarms. HDCVI technology also supports PoC, which makes the camera easy and quick to install.

* Audio input is available for select HDCVI camera models.

Long Distance Transmission

HDCVI technology provides long distance transmission in real time without transmission loss. It supports transmission distances up to 700 m for 2-MP/5-MP/8-MP HD videos through coaxial cables, and up to 300 m through UTP cables. The results were obtained and verified through rigorous testing in Dahua's test laboratory.

Simplicity

HDCVI technology inherits the simplicity of traditional analog surveillance systems, making it a great mechanism for protecting your valuables. HDCVI can be upgraded from the traditional analog system without replacing the existing coaxial cabling. Its plug and play design enables it to produce high-definition videos during surveillance without the hassle of configuring a network.

Technical Specification

Camera

Image Sensor	2 MP CMOS
Max. Resolution	1920 (H) × 1080 (V)
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/25 s–1/100,000 s; NTSC: 1/30 s–1/100,000 s
Min. Illumination	0.02 lux@F2.0 (Color, 30 IRE); 0.002 lux@F2.0 (B/W, 30 IRE); 0 lux (Illuminator on)
S/N Ratio	>65 dB
Illumination Distance	IR: 25 m (82.02 ft);
Illuminator On/Off Control	Auto;Manual
Illuminator Number	IR light
Angle Adjustment	Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal
Lens Mount	M12
Focal Length	2.8 mm;3.6 mm
Max. Aperture	F2.0
Field of View	2.8 mm: H: 100°; V: 54°; D: 117° 3.6 mm: H: 80°; V: 43°; D: 94°
Iris Control	Fixed
Close Focus Distance	2.8 mm: 0.5 m (1.64 ft) 3.6 mm: 0.8 m (2.62 ft)

	Lens	Detect	Observe	Recognize	Identify
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Video

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Resolution	1080p (1920 × 1080); 960H (960 × 576/960 × 480)
Day/Night	Auto(ICR)/Color/B/W
BLC	BLC; HLC; DWDR
WDR	DWDR
White Balance	Auto;Area white balance
Gain Control	Auto;Manual
Noise Reduction	2D NR
Illumination Mode	Smart IR Mode
Mirror	Yes
Privacy Masking	Off/On (8 areas, rectangle)

Certification

Certifications	CE-LVD: EN 62368-1; CE-EMC: EN 55032; EN 55035

Port

Video Output	Video output choices of CVI/TVI/AHD/CVBS by one BNC port
Audio Input	One channel built-in Mic

Power

Power Supply	12 VDC ± 30%
Power Consumption	Max 2.1 W (12 VDC, LED on)

Environment

Operating Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Operating Humidity	<95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	<95% (RH), non-condensing
Anti-corrosion Level	Basic Protection

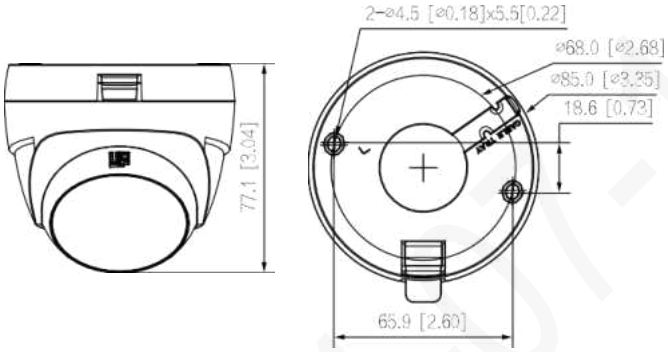
Structure

Casing Material	Plastic
Product Dimensions	Φ85.0 mm × 77.1 mm (Φ3.35" × 3.04")
Net Weight	0.11 kg (0.24 lb)
Gross Weight	0.12 kg (0.26 lb)
Installation	Wall mount; ceiling mount

Ordering Information

Type	Model	Description
2MP Camera	DH-HAC-T1A21P-U-A	2MP Smart IR HDCVI Fixed-focal Eyeball Camera, PAL
	DH-HAC-T1A21N-U-A	2MP Smart IR HDCVI Fixed-focal Eyeball Camera, NTSC
Accessories (Optional)	PFA12C	Plastic Junction Box
	PFM321D	12V 1A Power Adapter
	PFM800-E	Passive HDCVI Balun
	PFM904	Integrated Mount Tester

Dimensions (mm[inch])



Accessories

Optional:



PFA12C
Plastic Junction Box



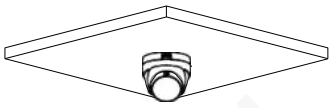
PFM321D
12V 1A Power Adapter



PFM800-E
Passive HDCVI Balun



PFM904
Integrated Mount Tester

Junction Mount	Wall Mount
	

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