**dahua** TECHNOLOGY

# DH-HAC-B1A21
## 2MP HDCVI IR Bullet Camera

· Max. 30 fps@1080p

· CVI/CVBS/AHD/TVI switchable

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

· Max. IR length 20 m, Smart IR

· IP67,12 VDC

Cooper Series | 2Mp | 20mIR | DC 12V | IP67 | High and Low Temperature

## System 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.

### 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.

### Protection

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.

### Multi-language OSD

The OSD offers multiple functions to meet the many requirements of a monitoring scene, such as backlight mode, day/night mode, white balance, privacy mask, and motion detection. 11 languages are available for OSD: Chinese, English, French, German, Spanish, Portuguese, Italian, Japanese, Korean, Russian and Polish.

### 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

| | |
|---|---|
| Pixel | 2 MP |
| Image Sensor | 2MP CMOS |
| Max. Resolution | 1920 (H) × 1080 (V) |
| Scanning System | Progressive |
| Electronic Shutter Speed | PAL: 1/25 s–1/100,000 s<br>NTSC: 1/30 s–1/100,000 s |
| Min. Illumination | 0.04 lux@F2.0 (Color, 30 IRE)<br>0.004 lux@F2.0 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >65 dB |
| Illumination Distance | 20 m (65.62 ft) |
| Illuminator On/Off Control | Auto/Manual |
| Illuminator Number | 2 (IR light) |
| Pan/Tilt/Rotation Range | Pan: 0°–360°<br>Tilt: 0°–90°<br>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: 53°; D: 120°<br>3.6 mm: H: 82°; V: 42°; D: 98°<br>6 mm: H: 53°; V: 30°; D: 60° |
| Iris Control | Fixed |
| Close Focus Distance | 2.8 mm: 0.6 m (1.97 ft)<br>3.6 mm: 1.0 m (3.28 ft)<br>6 mm: 2.0 m (6.56 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.8 mm | 46.9 m (153.87 ft) | 18.8 m (61.68 ft) | 9.4 m (30.84 ft) | 4.7 m (15.42 ft) |
| | 3.6 mm | 60.9 m (199.80 ft) | 24.3 m (79.72 ft) | 12.2 m (40.03 ft) | 6.1 m (20.01 ft) |
| | 6 mm | 82.8 m (271.65 ft) | 33.1 m (108.60 ft) | 16.6 m (54.46 ft) | 8.3 m (27.23 ft) |

### Video

| | |
|---|---|
| Video Frame Rate | CVI:<br>PAL: 1080p@25 fps; 720p@25 fps<br>NTSC: 1080p@30 fps; 720p@30 fps<br>TVI:<br>PAL: 1080p@25 fps; 720p@25 fps<br>NTSC: 1080p@30 fps; 720p@30 fps<br>AHD:<br>PAL: 1080p@25 fps; 720p@25 fps<br>NTSC: 1080p@30 fps; 720p@30 fps<br>CVBS:<br>PAL: 960H<br>NTSC: 960H |
| Resolution | 1080p (1920 × 1080); 720p (1280 × 720); 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 |
| Smart Illumination | Yes |
| Mirror | Yes |
| Privacy Masking | Off/On (8 areas, rectangle) |

### Certification

| | |
|---|---|
| Certifications | CE (EN55032:2015, EN61000-3-2:2014, EN61000-3-3:2013, EN55024:2010+A1:2015, EN55035:2017, EN50130-4:2011+A1:2014, EN62368-1:2014+A11:2017)<br>FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014) |

### Port

| | |
|---|---|
| Video Output | Video output choices of CVI/TVI/AHD/CVBS by one BNC port |

### Power

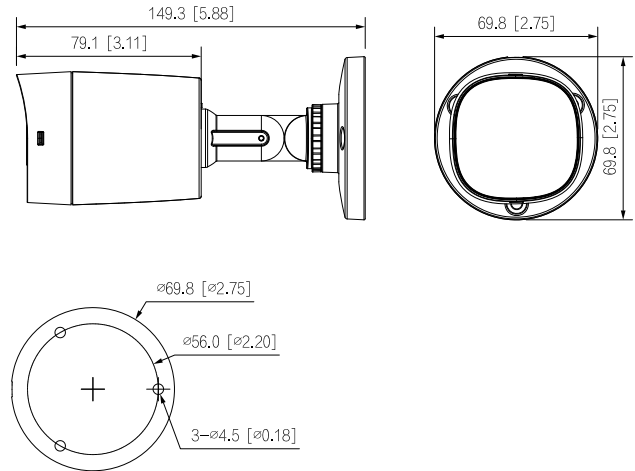| | |
|---|---|
| Power Supply | 12 VDC ± 30% |
| Power Consumption | Max. 2.7 W (12 VDC, IR on) |

### 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) |
| Protection | IP67 |

### Structure

| | |
|---|---|
| Casing | Plastic |
| Product Dimensions | 149.3 mm × 69.8 mm × 69.8 mm (5.88" × 2.75" × 2.75") |
| Packaging Dimensions | 164 mm × 79 mm × 90 mm (6.46" × 3.11" × 3.54") |
| Net Weight | 0.14 kg (0.31 lb) |
| Gross Weight | 0.17 kg (0.37 lb) |
| Installation | Wall mount; ceiling mount; horizontal pole mount |

## Ordering Information

| Type | Part Number | Description |
|------|-------------|-------------|
| 2MP Camera | DH-HAC-B1A21P | 2MP HDCVI IR Bullet Camera, PAL |
| | DH-HAC-B1A21N | 2MP HDCVI IR Bullet Camera, NTSC |
| Accessories (Optional) | PFA134 | Junction Box |
| | PFA134+PFA152-E | Pole Mount Bracket |
| | PFM800-E | Passive HDCVI Balun |
| | PFM321D | 12V 1A Power Adapter |
| | PFM904 | Integrated Mount Tester |

## Dimensions (mm[inch])



## Accessories

Optional:



PFA134
Junction
Box

PFA134+PFA152-E
Pole Mount
Bracket

PFM800-E
Passive HDCVI
Balun

PFM321D
12V 1A Power
Adapter

PFM904
Integrated Mount
Tester

| Ceiling Mount | Junction Mount | Pole Mount(Vertical) |
|---------------|----------------|----------------------|
| | | |