

# DH-HAC-T2A21

2MP HDCVI IR Eyeball Camera

## HDCVI



- Max. 30fps@1080P
- HD and SD output switchable
- 3.6mm fixed lens (2.8mm, 6mm optional)
- Max. IR length 20m, Smart IR
- IP67, DC12V



### System Overview

Experience 1080P full HD video and the simplicity of using existing cabling infrastructure with HDCVI. The Cooper series 1080P HDCVI camera features a compact design and offers a high quality image at a friendly price. It offers various vari-focal/fixed lens models with a multi-language OSD and HD/SD switchable output. Its structural flexibility and high cost-performance makes the camera an ideal choice for SMB solutions.

### Functions

#### 4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals to be transmitted over 1 coaxial cable simultaneously, i.e. video, audio\*, data and power. Dual-way data transmission allows the HDCVI camera to interact with the HCVR, such as sending control signal or triggering alarm. Moreover, HDCVI technology supports PoC for construction flexibility.

\* Audio input is available for some models of HDCVI cameras.

#### Long Distance Transmission

HDCVI technology guarantees real-time transmission at long distance without any loss. It supports up to 800m(1080P)/1200m(720P) transmission via coaxial cable, and up to 300m(1080P)/450m(720P) via UTP cable.\*

\*Actual results verified by real-scene testing in Dahua's test laboratory.

#### Simplicity

HDCVI technology inherits the born feature of simplicity from traditional analog surveillance system, making itself a best choice for investment protection. HDCVI system can seamlessly upgrade the traditional analog system without replacing existing coaxial cabling. The plug and play approach enables full HD video surveillance without the hassle of configuring a network.

#### Smart IR

The camera is designed with microcrystalline LED IR illumination for best lowlight performance. Smart IR is a technology to ensure brightness uniformity in B/W image under low illumination. Dahua's unique Smart IR adjusts to the intensity of 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.

#### Multi-formats

The camera supports multiple video formats including HDCVI, CVBS and other two common HD analog formats in the market. The four formats can be switched over through OSD menu or by PFM820(UTC controller). This feature makes the camera to be compatible with not only HCVRs but also most end users' existing HD/SD DVRs.

#### Multi-language OSD

OSD menu provides multiple image adjustments and function settings to meet the requirements of different monitoring scenes. The OSD menu includes configurations such as backlight mode, day/night, white balance, privacy mask and motion detect. The camera supports 11 languages for OSD menu, namely, Chinese, English, French, German, Spanish, Portuguese, Italian, Japanese, Korean, Russian and Polish.

#### Protection

The camera's outstanding reliability is unsurpassed due to its rugged design. The camera is protected against water and dust with IP67 ranking, making it suitable for indoor or outdoor environments.

With working temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments.

Supporting ±30% input voltage tolerance, this camera suits even the most unstable power supply conditions. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

| Technical Specification  |                                             |
|--------------------------|---------------------------------------------|
| Camera                   |                                             |
| Image Sensor             | 1/2.7" CMOS                                 |
| Effective Pixels         | 1920(H)×1080(V), 2MP                        |
| Scanning System          | Progressive                                 |
| Electronic Shutter Speed | PAL: 1/25~1/100000s<br>NTSC: 1/30~1/100000s |
| Minimum Illumination     | 0.04Lux/F1.85, 30IRE, 0Lux IR on            |
| S/N Ratio                | More than 65dB                              |
| IR Distance              | Up to 20m (66feet)                          |
| IR On/Off Control        | Auto / Manual                               |

|                      |                                                |
|----------------------|------------------------------------------------|
| Lens                 |                                                |
| Lens Type            | Fixed lens / Fixed iris                        |
| Mount Type           | Board-in                                       |
| Focal Length         | 3.6mm (2.8mm,6mm Optional)                     |
| Max Aperture         | F1.85                                          |
| Angle of View        | H: 93° (103°,54.7°)                            |
| Focus Control        | N/A                                            |
| Close Focus Distance | 800mm (500mm,2000mm)<br>31.50" (19.69",78.74") |

DORI Distance

Note: 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.

|           | DORI Definition   | Distance                                                  |
|-----------|-------------------|-----------------------------------------------------------|
| Detect    | 25px/m (8px/ft)   | 2.8mm: 37m(121ft)<br>3.6mm: 51m(167ft)<br>6mm: 80m(262ft) |
| Observe   | 63px/m (19px/ft)  | 2.8mm: 15m(49ft)<br>3.6mm: 20m(66ft)<br>6mm: 32m(105ft)   |
| Recognize | 125px/m (38px/ft) | 2.8mm: 8m(26ft)<br>3.6mm: 10m(33ft)<br>6mm: 16m(51ft)     |
| Identify  | 250ppm (76px/ft)  | 2.8mm: 4m(14ft)<br>3.6mm: 5m(17ft)<br>6mm: 8m(26ft)       |

Pan / Tilt / Rotation

|                   |                                                         |
|-------------------|---------------------------------------------------------|
| Pan/Tilt/Rotation | Pan: 0° ~ 360°<br>Tilt: 0° ~ 78°<br>Rotation: 0° ~ 360° |
|-------------------|---------------------------------------------------------|

Video

|              |                                                                             |
|--------------|-----------------------------------------------------------------------------|
| Resolution   | 1080P (1920×1080)                                                           |
| Frame Rate   | 25/30fps@1080P, 25/30/50/60fps@720P                                         |
| Video Output | 1-channel BNC high definition video output / CVBS video output (Can switch) |
| Day/Night    | Auto (ICR) / Manual                                                         |

|                 |                  |
|-----------------|------------------|
| OSD Menu        | Multi-language   |
| BLC Mode        | BLC / HLC / DWDR |
| WDR             | DWDR             |
| Gain Control    | AGC              |
| Noise Reduction | 2D               |
| White Balance   | Auto / Manual    |
| Smart IR        | Auto / Manual    |

Certifications

|                |                                                                                        |
|----------------|----------------------------------------------------------------------------------------|
| Certifications | CE (EN55032, EN55024, EN50130-4)<br>FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014) |
|----------------|----------------------------------------------------------------------------------------|

Interface

|                 |     |
|-----------------|-----|
| Audio Interface | N/A |
|-----------------|-----|

Eelectrical

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

Environmental

|                                        |                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------|
| Operating Conditions                   | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 95% RH<br>* Start up should be done at above -40°C (-40°F) |
| Storage Conditions                     | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 95% RH                                                     |
| Ingress Protection & Vandal Resistance | IP67                                                                                                  |

Construction

|              |                                 |
|--------------|---------------------------------|
| Casing       | Aluminium                       |
| Dimensions   | 94mm×94mm×78mm(3.7"×3.7"×3.07") |
| Net Weight   | 0.27kg (0.60lb)                 |
| Gross Weight | 0.32kg (0.71lb)                 |

## Ordering Information

| Type        | Part Number         | Description                                            |
|-------------|---------------------|--------------------------------------------------------|
| 2MP Camera  | DH-HAC-T2A21P 2.8mm | 2MP HDCVI IR Eyeball Camera, PAL                       |
|             | DH-HAC-T2A21P 3.6mm |                                                        |
|             | DH-HAC-T2A21P 6mm   |                                                        |
|             | DH-HAC-T2A21N 2.8mm | 2MP HDCVI IR Eyeball Camera, NTSC                      |
|             | DH-HAC-T2A21N 3.6mm |                                                        |
|             | DH-HAC-T2A21N 6mm   |                                                        |
| Accessories | PFA13A              | Junction box (For use alone)                           |
|             | PFB204W             | Wall mount (For use alone or with PFA152-E pole mount) |
|             | PFA152-E            | Pole mount (For use with PFB204W wall mount)           |
|             | PFM800-4K           | Passive Video Balun                                    |
|             | PFM800B-4K          | Passive Video Balun                                    |
|             | PFM800-E            | Passive HDCVI Balun                                    |
|             | PFM321              | 12V 1A Power Adapter                                   |
|             | PFM320D-015         | 12V 1.5A Power Adapter                                 |
|             | PFM300              | 12V 2A Power Adapter                                   |
|             | PFM820              | UTC Controller                                         |

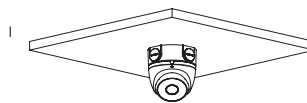
## Accessories

Optional:

PFA13A  
Junction boxPFB204W  
Wall mountPFA152-E  
Pole mountPFM800-4K  
Passive Video BalunPFM800B-4K  
Passive Video BalunPFM321  
12V 1A Power AdapterPFM320D-015  
Power AdapterPFM300  
12V 2A Power AdapterPFM820  
UTC Controller

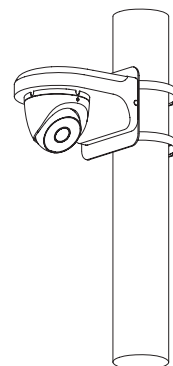
## Junction Mount

PFB13A-E



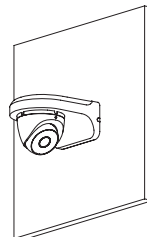
## Pole Mount

PFB204W+PFA152-E



## Wall Mount

PFB204W



## Dimensions (mm/inch)

