**dahua** TECHNOLOGY

# DH-HAC-HDW1801T-Z/T-Z-A
## 4K HDCVI IR Eyeball Camera



· 120dB True WDR, 3DNR
· Max. 4K resolution
· CVI/CVBS/AHD/TVI switchable
· 2.7-13.5mm motorized lens
· Built-in mic (-A)
· Max. IR length 60m, smart IR
· IP67, 12V ±30% DC

Lite Series · 4K · WDR · 60 m IR · Audio · DC 12V · IP67

## System Overview

Experience 4K video surveillance with the simplicity of reusing existing coaxial infrastructure. The 4K HDCVI camera adopts a powerful Dahua ISP and advanced 1/2.7" CMOS sensor, which provides superior high quality images. In addition, the camera features broadcastquality audio to provide enhanced supplementary evidence collection. Ultra-high definition and a complete set of features makes the 4K HDCVI camera an ideal choice for mid to large-size businesses and projects where both highly reliable surveillance and construction flexibility are demanded.

## 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 700m transmission for 4K and 4MP HD video via coaxial cable, and up to 300m 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.

### Broadcast-quality Audio

Audio information is used as supplementary evidence in video surveillance applications. The HDCVI camera supports audio signal transmission over coaxial cable. In addition, it adopts unique audio processing and transmission technology that best restores source audio and eliminates noise, guaranteeing the quality and effectiveness of collected audio information.

*Broadcast-quality audio is available for some models of HDCVI cameras.

### Multi-formats

The camera supports multiple video formats including HDCVI, CVBS, and other two common HD analog formats in the market. This feature makes the camera compatible with not only XVRs, but also most existing HD/SD DVRs.

*Use OSD menu to switch HDCVI to other video formats. Use PFM820 UTC Controller to switch CVBS to HDCVI video format.

### Wide Dynamic Range

Embedded with industry leading wide dynamic range (WDR) technology,vivid pictures are achieved even in the most intense contrast lighting conditions. True WDR (120dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

### Advanced 3D NR

3DNR is noise reduction technology that detects and eliminates random noises by comparing two sequential frames. Dahua's advanced 3DNR technology allows remarkable noise reduction with little impact to sharpness, especially under limited lighting condition. Besides, the advanced 3DNR effectively decreases the band width and saves the storage space.

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

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.7 inch CMOS |
| Effective Pixels | 3840 (H)×2160 (V), 4K |
| Electronic Shutter Speed | PAL: 1/3s–1/100000s<br>NTSC: 1/4s–1/100000s |
| Minimum Illumination | 0.03Lux/F1.7, 30IRE, 0Lux IR on |
| IR Distance | Distance up to 60m (196.85ft) |
| IR On/Off Control | Auto;manual |
| IR LED Number | 2 |
| Pan/Tilt/Rotation Range | Pan: 0°–360°<br>Tilt: 0°–78°<br>Rotation: 0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Mount Type | φ14 |
| Focal Length | 2.7mm–13.5mm |
| Max. Aperture | F1.7 |
| Angle of View | Horizontal: 105°–33°<br>Vertical: 56°–18°<br>Diagonal: 126°–38° |
| Iris Type | Fixed iris |
| Close Focus Distance | 0.8m (2.62ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | Wide-angle | 90m (295ft) | 36m (118ft) | 18m (59ft) | 9m (30ft) |
| | Telephoto | 264m (866ft) | 264m (866ft) | 53m (174ft) | 26m (85ft) |

### Video

| | |
|---|---|
| Video Frame Rate | CVI: 4K@15fps; 5M@20fps; 4M@25fps/30fps;<br>CVBS: PAL/NTSC<br>AHD: 5M@20fps; 4M@25fps/30fps<br>TVI: 5M@20fps; 4M@25fps/30fps |
| Resolution | 4K (3840×2160); 5M (2592×1944); 4M (2560×1440);<br>960H (960× 576/960×480) |
| Day/Night | Auto switch by ICR |
| BLC | BLC/HLC/WDR |
| WDR | 120dB/WDR |
| White Balance | Auto; manual |
| Gain Control | Auto; manual |
| Noise Reduction | 2D&3D NR |
| Smart IR | Yes |
| Electronic Defog | Yes |
| Digital Zoom | 4X |
| Mirror | Off/On |
| Privacy Masking | Off/On (8 area, rectangle) |

### Certifications

| | |
|---|---|
| Certifications | CE (EN55032, EN55024, EN50130-4)<br>FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014)<br>UL (UL60950-1+CAN/CSA C22.2 No.60950-1) |

### Port

| | |
|---|---|
| Audio Port | One channel built-in mic (-A) |
| Video Port | Video output choices of CVI/TVI/AHD/CVBS by one BNC port |

### Power

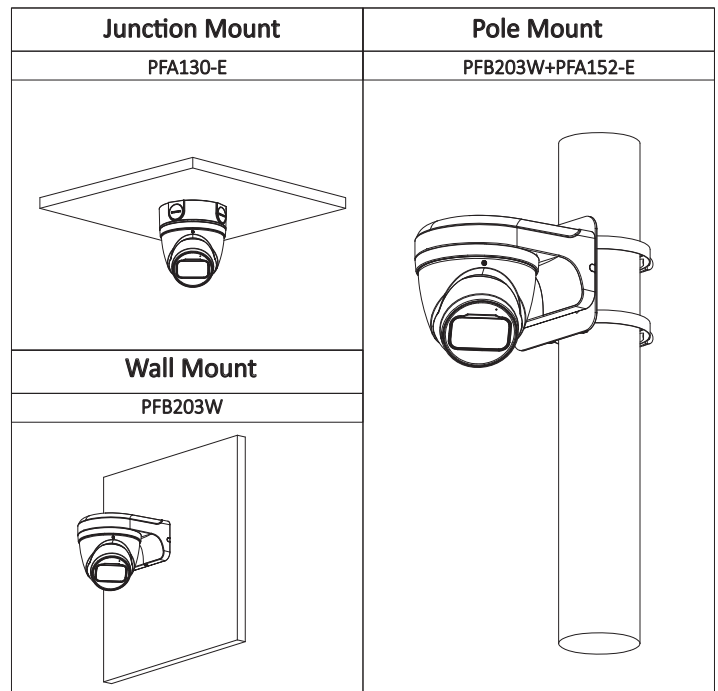| | |
|---|---|
| Power Supply | 12V ±30% DC |
| Power Consumption | Max 7.8W (12V DC, IR on) |

### Environment

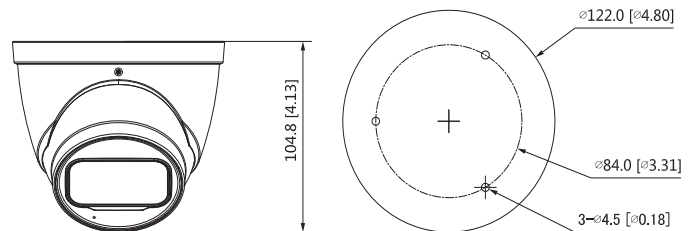| | |
|---|---|
| Operating Temperature | -30°C to +60°C (-22°F to 140°F);<95% (non-condensation) |
| Storage Temperature | -30°C to +60°C (-22°F to 140°F);<95% (non-condensation) |
| Protection Grade | IP67 |

### Structure

| | |
|---|---|
| Casing | Metal throughout the whole casing |
| Dimensions | Φ122.0mm×104.8mm (Φ4.80"×4.13") |
| Net Weight | 0.58kg (1.28lb) |
| Gross Weight | 0.73kg (1.616lb) |

## Ordering Information

| Type | Part Number | Description |
|------|-------------|-------------|
| 4K Camera | DH-HAC-HDW1801TP-Z 2.7–13.5mm | 4K HDCVI IR Eyeball Camera,PAL |
| | DH-HAC-HDW1801TN-Z 2.7–13.5mm | 4K HDCVI IR Eyeball Camera,NTSC |
| | DH-HAC-HDW1801TP-Z-A 2.7–13.5mm | 4K HDCVI IR Eyeball Camera,PAL |
| | DH-HAC-HDW1801TN-Z-A 2.7–13.5mm | 4K HDCVI IR Eyeball Camera,NTSC |
| Accessories | PFA130-E | Junction box (For use alone) |
| | PFB203W | Wall mount (For use alone or with PFA152 pole mount) |
| | PFA152-E | Pole mount (For use with PFB203W wall mount) |
| | PFM820 | UTC Controller |
| | PFM800-E | Passive HDCVI Balun |
| | PFM800-4K | Passive Video Balun |
| | PFM800B-4K | Passive Video Balun |
| | PFM320D-015 | 12V 1.5A Power Adapter |
| | PFM300 | 12V 2A Power Adapter |

## Accessories

### Optional:

| | | |
|---|---|---|
| PFA130-E Junction box (For use alone) | PFB203W Wall mount (For use alone or with PFA152 pole mount) | PFA152-E Pole mount (For use with PFB203W wall mount) |
| PFM820 UTC Controller | PFM800-E Passive HDCVI Balun | PFM800-4K Passive Video Balun |
| PFM800B-4K Passive Video Balun | PFM320D-015 12V 1.5A Power Adapter | PFM300 12V 2A Power Adapter |

| Junction Mount | Pole Mount |
|----------------|------------|
| PFA130-E | PFB203W+PFA152-E |

**Wall Mount**

PFB203W

## Dimensions (mm/inch)

104.8 [4.13]

⌀122.0 [⌀4.80]
⌀84.0 [⌀3.31]
3–⌀4.5 [⌀0.18]

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