

DH-HAC-HDW2509TLM-A-LED

5MP Full-color HDCVI Eyeball Camera



* In order to use the 5MP 16:9 HDCVI camera, the firmware of XVR must be upgraded to V4.001.0000001.0.R.200908 or later version.

- Max 25 fps@5MP (16:9 video output)
- 120 dB true WDR, 3D NR
- 24/7 color imaging
- 20 m illumination distance
- Super Adapt
- Built-in mic
- 3.6 mm fixed lens (2.8 mm optional)
- CVI/CVBS/AHD/TVI switchable
- IP67, 12 VDC



System Overview

Pro Series is a perfect choice for SMB solutions and projects where both high reliability and flexibility are required. All cameras are equipped with Starlight feature, 120dB true WDR and 3DNR, and are able to provide clear images and rich details even under tough lighting conditions.

Functions

Full-color

Full-color camera adopts large aperture lens and high performance sensor. With higher amount of absorbed light and advanced image processing algorithm, the camera provides 24/7 color monitoring that collects clear and vivid information, significantly increasing probability of gathering valid human, vehicle, and event evidence that can be used for further intelligent analysis.

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.

Wide Dynamic Range

With advanced Wide Dynamic Range (WDR) technology, Dahua HDCVI camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

Super Adapt

Embedded with intelligent algorithm, for changing external environment, camera can automatically adjust parameters to present the optimal image, and it solves the trouble of configuration.

Advanced 3DNR

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.

Smart Illumination

The camera is designed with 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.

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 XVR, 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 2MP/5MP/8MP HD video via coaxial cable, and up to 300m via UTP cable.

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

Protection (IP67, wide voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can works normal after soaking in 1 m deep water for 30 minutes.

Wide voltage: The camera allows $\pm 30\%$ (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera

| | |
|----------------------------|---|
| Image Sensor | 5MP CMOS |
| Max. Resolution | 2880 (H) × 1620 (V) |
| Pixel | 5MP |
| Scanning System | Progressive |
| Electronic Shutter Speed | PAL: 1/3 s–1/100,000 s NTSC: 1/4 s–1/100,000 s |
| S/N Ratio | > 65 dB |
| Min. Illumination | 0.0002 Lux/F1.0, 0 Lux warm light on |
| Illumination Distance | 20 m (65.6 ft) |
| Illuminator On/Off Control | Auto; manual |
| Illuminator Number | 1 (Warm light) |
| Pan/Tilt/Rotation Range | Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360° |

Lens

| | | | | | |
|----------------------|---|--------------------|---------------------|---------------------|--------------------|
| Lens Type | Fixed-focal | | | | |
| Mount Type | M12 | | | | |
| Focal Length | 2.8 mm; 3.6 mm | | | | |
| Max. Aperture | F1.0 | | | | |
| Field of View | 2.8 mm: H: 111°; V: 57°; D: 131° 3.6 mm: H: 88°; V: 46°; D: 104° | | | | |
| Iris Type | Fixed iris | | | | |
| Close Focus Distance | 2.8 mm: 1.5 m (4.9 ft) 3.6 mm: 2.3 m (7.5 ft) | | | | |
| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
| | 2.8 mm | 66 m (216.5 ft) | 26.4 m (86.6 ft) | 13.2 m (43.3 ft) | 6.6 m (21.7 ft) |
| | 3.6 mm | 80 m (262.5 ft) | 32 m (105 ft) | 16 m (52.5 ft) | 8 m (26.2 ft) |

Video

| | |
|---------------|--|
| Frame Rate | CVI: PAL: 5M@25 fps; 4M@25 fps; 1080p@25 fps NTSC: 5M@25 fps; 4M@30 fps; 1080p@30 fps AHD: PAL: 4M@25 fps; NTSC: 4M@30 fps TVI: PAL: 4M@25 fps; NTSC: 4M@30 fps CVBS: PAL: 960H; NTSC: 960H |
| Resolution | 5M (2880 × 1620); 4M (2560 × 1440); 1080p (1920 × 1080); 960H (960 × 576/960 × 480); |
| BLC | BLC/HLC/WDR/HLC-Pro |
| WDR | 120 dB |
| White Balance | Auto; Area white balance |

| | |
|--------------------|----------------------------|
| Gain Control | Auto; manual |
| Noise Reduction | 3D NR |
| Smart Illumination | Yes |
| Defog | Electronic defog |
| Digital Zoom | 4× |
| Mirror | Off/On |
| Privacy Masking | Off/On (8 area, rectangle) |

Certifications

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

Port

| | |
|--------------|---|
| Video Output | Video output choices of CVI/TVI/AHD/CVBS by one BNC port (DIP Switch) |
| Audio Input | One channel built-in mic |

Power

| | |
|-------------------|-----------------------------------|
| Power Supply | 12V ±30% DC |
| Power Consumption | Max 4.4 W (12 VDC, warm light on) |

Environment

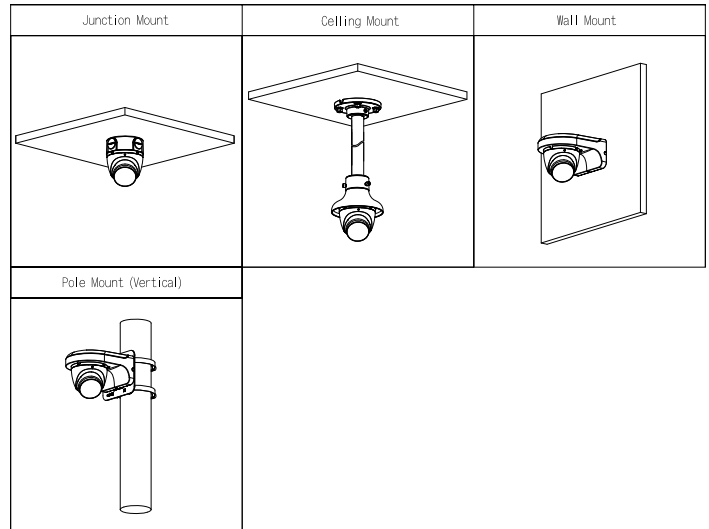
| | |
|-----------------------|---|
| Operating Temperature | –40 °C to +60 °C (–40 °F to 140 °F); < 95% (non-condensation) |
| Storage Temperature | –40 °C to +60 °C (–40 °F to 140 °F); < 95% (non-condensation) |
| Protection Grade | IP67 |

Structure

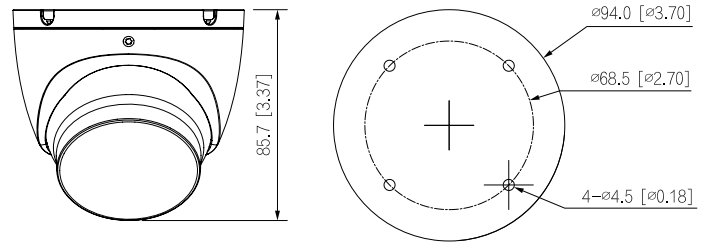
| | |
|-------------------|-----------------------------------|
| Casing | Metal throughout the whole casing |
| Camera Dimensions | φ94 mm × 85.7 mm (φ3.7" × 3.37") |
| Net Weight | 0.35 kg (0.77 lb) |
| Gross Weight | 0.49 kg (1.08 lb) |

Ordering Information

| Type | Model | Description |
|------------------------|--------------------------|---|
| 5MP Camera | DH-HAC-HDW2509TLM-A-LED | 5MP Full-color HDCVI Eyeball Camera, PAL |
| | DH-HAC-HDW2509TLMN-A-LED | 5MP Full-color HDCVI Eyeball Camera, NTSC |
| Accessories (Optional) | PFA13A-E | Junction Box |
| | PFB205W | Wall Mount Bracket |
| | PFA106+PFB220C | Adapter Plate of Mini Dome & Eyeball Camera + Ceiling Mount Bracket of Mini Dome & Eyeball Camera |
| | PFB205W+PFA152-E | Wall Mount Bracket + Pole Mount Bracket |
| | PFM800-4K | 1-CH Passive Video Balun |
| | PFM321 | 12 VDC 1A Power Adapter |
| | PFM904 | Integrated Mount Tester |



Dimensions (mm[inch])



Accessories

Optional:



PFA13A-E
Junction Box



PFB205W
Wall Mount Bracket



PFA106+PFB220C
Adapter Plate of Mini Dome
& Eyeball Camera + Ceiling
Mount Bracket of Mini Dome
& Eyeball Camera



PFB205W+PFA152-E
Wall Mount Bracket +
Pole Mount Bracket



PFM800-4K
1-CH Passive Video Balun



PFM321
12 VDC 1A Power
Adapter



PFM904
Integrated Mount Tester