

# DH-HAC-HDW2501TQ-A

## 5MP Starlight HDCVI Quick-to-install IR Eyeball Camera



\* The parameters and datasheets below can only be applied to 2501-S2 series.  
 \* 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)
- Starlight, 120 dB true WDR, 3D NR
- CVI/CVBS/AHD/TVI switchable
- Quick-to-install eyeball saves installation time
- 3.6 mm fixed lens (2.8 mm, 6 mm optional)
- Built-in mic
- Max. IR length 40 m, Smart IR
- IP67, DC12V±30%



### System Overview

Experience 5MP full HD video and the simplicity of using existing cabling infrastructure with HDCVI. The Pro series 5MP HDCVI camera features a compact design and offers a high quality image at a friendly price. It offers various motorized/fixed lens models with 120 dB true WDR and a multi-language OSD and HD/SD switchable output. Its structural flexibility and high cost-performance make 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 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.

#### Easy Installation

HDCVI Quick-to-install eyeball adopts quick-to-install pedestal, which can achieve easier installation than conventional eyeball. Quick-to-install camera reduces time and labor costs.

#### Long Distance Transmission

HDCVI technology guarantees real-time transmission at long distance without any loss. It supports up to 700 m for 5MP HD video via coaxial cable, and up to 300 m 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.

#### Starlight

With the adoption of large sized high performance sensor, the camera is able to provide incomparable performance even under extreme lowlight environment. The starlight feature allows more details to be captured and accurate color to be recognized at night or in scenes with limited illumination.

#### 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.

#### Smart IR

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

#### 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 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.

Technical Specification

Camera	
Image Sensor	1/2.7 inch 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	0.001 Lux/F1.6, 30IRE, 0Lux IR on
Illumination Distance	40 m (131.2 ft)
Illuminator On/Off Control	Auto / Manual
Illuminator Number	1
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; 6 mm			
Max. Aperture		F1.6			
Field of View		2.8 mm: 132° × 111° × 58° (diagonal × horizontal × vertical) 3.6 mm: 109° × 92° × 48° (diagonal × horizontal × vertical) 6 mm: 65° × 57° × 30° (diagonal × horizontal × vertical)			
Iris Type		Fixed iris			
Close Focus Distance		2.8 mm: 0.9 m (3.0 ft) 3.6 mm: 1.6 m (5.2 ft) 6 mm: 3.1 m (10.2 ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	63.6 m (208.7 ft)	25.4 m (83.3 ft)	12.7 m (41.7 ft)	6.4 m (21.0 ft)
	3.6 mm	80 m (262.5 ft)	32 m (105.0 ft)	16 m (52.5 ft)	8 m (26.2 ft)
	6 mm	120 m (393.7 ft)	48 m (157.5 ft)	24 m (78.7 ft)	12 m (39.4 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	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)
	Day/Night	Auto switch by ICR
	BLC	BLC/HLC/WDR/HLC-Pro
	WDR	120 dB
White Balance		Auto / Manual
Gain Control		Auto / Manual
Noise Reduction		2D NR/3D NR
Smart IR		Yes
Mirror		Off/On
Privacy Masking		Off/On (8 areas, rectangle)

Certifications	CE (EN55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN55024:2010+A1:2015, EN 55035:2017, EN50130-4:2011+A1:2014, EN 62368-1:2014+A11:2017) FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014) UL (UL60950-1+CAN/CSA C22.2 No.60950-1)
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Port	
Audio Interface	One channel built-in mic
Video Output	Video output choices of CVI/TVI/AHD/CVBS by one BNC port (DIP Switch)

Power	
Power Supply	DC 12V ±30%
Power Consumption	Max 4.3W (12V DC, IR 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 inner core+plastic cover+plastic pedestal
Camera Dimensions	φ109.9 mm × 100.9 mm (φ4.33" × 3.97")
Net Weight	0.34 kg (0.75 lb)
Gross Weight	0.52 kg (1.15 lb)


Ordering Information		
Type	Part Number	Description
5MP Camera	DH-HAC-HDW2501TQP-A 2.8 mm	5MP Starlight HDCVI Quick-to-install IR Eyeball Camera
	DH-HAC-HDW2501TQN-A 2.8 mm	
	DH-HAC-HDW2501TQP-A 3.6 mm	
	DH-HAC-HDW2501TQN-A 3.6 mm	
	DH-HAC-HDW2501TQP-A 6 mm	
	DH-HAC-HDW2501TQN-A 6 mm	
Accessories	PFA130-E	IP66 Junction Box
	PFA13G	Junction box
	PFB205W	Wall Mount Bracket
	PFA152-E	Pole Mount Bracket
	PFM8000-4K	Passive HDCVI Balun
	PFM321D	12V 1A Power Adapter
	PFM904	Integrated Mount Tester

Accessories


Optional:




PFA130-E  
IP66 Junction Box




PFA13G  
Junction Box




PFB205W  
Wall Mount Bracket




PFA152-E  
Pole Mount Bracket



PFM800-4K  
Passive HDCVI Balun



PFM321D  
12V 1A Power Adapter



PFM904  
Integrated Mount Tester

Junction Mount	Wall Mount	Pole Mount(Vertical)
