alhua TECHNOLOGY

DH-HAC-HDBW2501RA-Z-A

5MP Starlight HDCVI Motorized Vari-focal IR Dome 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.

· Smart IR Illumination.

· 60 m illumination distance.

· Super Adapt.

· Built-in MIC.

· Auto focus, 2.7 mm–13.5 mm motorized lens.

· CVI/CVBS/AHD/TVI switchable.

· IP67, IK10, 12 VDC.

System Overview

The Pro Series contains a series of highly reliable and flexible cameras, making it a great choice for SMB solutions and projects. It has Starlight technology, up to 130 dB true WDR and 3DNR, and produces vivid images in rich detail even under difficult lighting conditions.

Functions

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.

Starlight

With its large image sensor and large aperture, the camera delivers high performance and quality, even in low-light conditions. The starlight feature allows the camera to capture highly detailed images in accurate color, recognizing targets even at night or in scenes with limited light.

Wide Dynamic Range

With its advanced Wide Dynamic Range technology (WDR), the camera captures highly detailed images and produces high-definition recordings in high-contrast lighting conditions, and in scenes with backlighting or shadows.

Super Adapt

With its intelligent algorithm, the camera automatically adjusts its parameters to provide optimal performance and vivid images.

Advanced 3DNR

Dahua's advanced 3DNR technology reduces image noise with little to no impact on image sharpness, especially in poor lighting conditions. It detects the noise, and compares the sequential frames to effectively reduce the noise. It also makes efficient use of bandwidth, saving on storage space.

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.

Protection (IP67, IK10, Wide Voltage)

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. IK10: The enclosure can withstand up to 5 punches from a 5 kg hammer falling from a height of 40 cm (impact energy is 20 J). 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.

Technical Specification

Camera

Image Sensor	5 MP CMOS
Max. Resolution	2880 (H) × 1620 (V)
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/3 s–1/100000 s NTSC: 1/4 s–1/100000 s
Min. Illumination	0.01 lux@F1.6 (Color, 30 IRE) 0.001 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>65 dB
Illumination Distance	60 m (196.85 ft)
Illuminator On/Off Control	Auto/Manual
Illuminator Number	3 (IR light)
Pan/Tilt/Rotation Range	Pan: 0°–355° Tilt: 0°–80° Rotation: 0°–355°

Lens

Lens Type	Motorized Vari-focal
Auto Focus	Yes
Lens Mount	φ14
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.6
Field of View	H: 113°–31.4°; V: 58°–17.6°; D: 138°–36°
Iris Control	Fixed
Close Focus Distance	0.8 m (2.62 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	64.0 m (209.97 ft)	25.6 m (83.99 ft)	12.8 m (41.99 ft)	6.4 m (21.00 ft)
	T	210.0 m (688.97 ft)	84.0 m (275.59 ft)	42.0 m (137.80 ft)	21.0 m (68.89 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

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(ICR)/Color/B/W

BLC	BLC; HLC; WDR; HLC-Pro
WDR	120 dB
White Balance	Auto;Area white balance
Gain Control	Auto/Manual
Noise Reduction	3D NR
Illumination Mode	Smart IR
Defog	Electronic defog
Digital Zoom	4×
Mirror	Yes
Privacy Masking	Off/On (8 areas, rectangle)

Certification

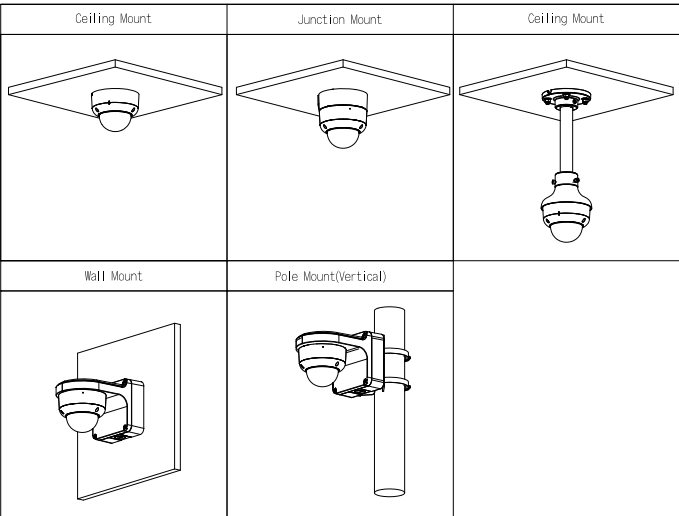|	
Certifications	CE-LVD: EN 62368-1; CE-EMC: EN 55032; EN 55035; FCC: 47 CFR FCC Part 15, Subpart B; UL: UL62368-1 + CAN/CSA C22.2 No. 62368-1-14

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

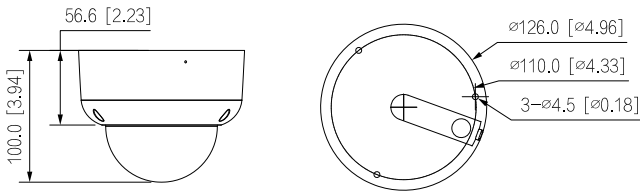|	
Power Supply	12 VDC ± 30%
Power Consumption	Max 7.6 W (12 VDC, IR on)

Environment

Operating Temperature	−30 °C to +60 °C (−22 °F to +140 °F)
Operating Humidity	<95% (RH), non-condensing
Storage Temperature	−30 °C to +60 °C (−22 °F to +140 °F)
Storage Humidity	<95% (RH), non-condensing
Protection	IK10;IP67

Structure

Casing Material	Metal
Product Dimensions	Φ126.0 mm × 100.0 mm (Φ4.96" × 3.94")
Net Weight	0.66 kg (1.46 lb)
Gross Weight	0.83 kg (1.83 lb)
Installation	Wall mount; ceiling mount; vertical pole mount

Ordering Information

Type	Model	Description
5M Camera	DH-HAC-HDB-W2501RAP-Z-A	5MP Starlight HDCVI Motorized Vari-focal IR Dome Camera, PAL
	DH-HAC-HDB-W2501RAN-Z-A	5MP Starlight HDCVI Motorized Vari-focal IR Dome Camera, NTSC
Accessories (Optional)	PFA197R	Junction Box
	PFB206W	Wall Mount Bracket
	PFA109	Mount Adapter
	PFB220C	Ceiling Mount Bracket of Mini Dome & Eyeball Camera
	PFA156	Pole Mount Bracket
	PFM800-4K	Passive HDCVI Balun
	PFM321D	12V 1A Power Adapter
	PFM904	Integrated Mount Tester

Accessories

Optional:

PFA197R
Junction
Box

PFB206W
Wall Mount
Bracket

PFA109
Mount
Adapter

PFB220C
Ceiling Mount Bracket
of Mini Dome & Eyeball
Camera

PFA156
Pole Mount
Bracket

PFM800-4K
1-CH Passive
Video Balun

PFM321D
12V 1A Power
Adapter

PFM904
Integrated Mount
Tester

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

Dimensions (mm[inch])

56.6 [2.23]

100.0 [3.94]

⌀126.0 [⌀4.96]
⌀110.0 [⌀4.33]
3-⌀4.5 [⌀0.18]