DAHUA TECHNOLOGY

DH-HAC-HDW2802TMQ-Z-A

4K Starlight HDCVI Motorized Vari-focal IR Quick-to-install Eyeball Camera

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

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.

Broadcast-quality Audio

Audio signal transmission over coaxial cables is supported by the HDCVI camera. It adopts a unique audio processing and transmission technology that restores source audio and eliminates noise, ensuring the quality and reliability of the audio information that is collected. This becomes important for video surveillance applications that use audio information as a type of supplementary evidence.

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.

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.

* The parameters and datasheets below can only be applied to 2802-S2 series.

· Max. 15 fps@4K.

· Starlight, 120 dB true WDR, 3D NR.

· Smart IR Illumination.

· 60 m illumination distance.

· Super Adapt.

· Built-in MIC.

· Quick-to-install eyeball saves installation time.

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

· CVI/CVBS/AHD/TVI switchable.

· IP67, 12 VDC.

| Pro Series | 4K | Starlight | Audio | WDR | 60mIR | Smart Illumination |

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.

Long Distance Transmission

HDCVI technology provides long distance transmission in real time without transmission loss. It supports transmission distances up to 700 m for 2-MP/5-MP/8-MP HD videos through coaxial cables, and up to 300 m through UTP cables. The results were obtained and verified through rigorous testing in Dahua's test laboratory.

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.

Protection (IP67, 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. 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.

Easy Installation

The camera comes with an easy-to-install eyeball and pedestal, that cuts down on installation time and cost, outranking conventional eyeballs.

Technical Specification

Camera

Image Sensor	4K CMOS
Max. Resolution	3840 (H) × 2160 (V)
Scanning System	Progressive
Electronic Shutter Speed	PAL: 1/3 s–1/100000 s NTSC: 1/4 s–1/100000 s
Min. Illumination	0.001 lux@F1.5 (Color, 30 IRE) 0.0001 lux@F1.5 (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
Illuminator Number	2 (IR light)
Pan/Tilt/Rotation Range	Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens

Lens Type	Motorized Vari-focal				
Auto Focus	Yes				
Lens Mount	φ14				
Focal Length	2.7 mm–13.5 mm				
Max. Aperture	F1.5				
Field of View	H: 113°–47°; V: 60°–26°; D: 133°–53°				
Iris Control	Fixed				
Close Focus Distance	1.2 m (3.94 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.7 mm	83.4 m (273.62 ft)	33.4 m (109.58 ft)	16.7 m (54.79 ft)	8.3 m (27.23 ft)
	13.5 mm	189.6 m (622.05 ft)	75.8 m (248.69 ft)	37.9 m (124.34 ft)	19.0 m (62.34 ft)

Video

Video Frame Rate	CVI: PAL: 4K@15 fps; 5M@25 fps; 4M@25 fps NTSC: 4K@15 fps; 5M@25 fps; 4M@30 fps AHD: PAL: 4K@15 fps; NTSC: 4K@15 fps TVI: PAL: 4K@15 fps; NTSC: 4K@15 fps CVBS: PAL: 960H; NTSC: 960H
Resolution	4K (3840 × 2160); 5M (2880 × 1620); 4M (2560 × 1440); 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%(It is recommended to use a power adapter to supply the power for one camera)
Power Consumption	Max 8.1 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	IP67

Structure

Casing Material	Metal dome + metal enclosure + plastic mounting plate
Product Dimensions	φ135 mm × 109 mm (φ5.31" × 4.28")
Net Weight	0.53 kg (1.20 lb)
Gross Weight	0.70 kg (1.51 lb)
Installation	Wall mount; ceiling mount; vertical pole mount

Ordering Information

Type	Part Number	Description
4K Camera	DH-HAC-HDW2802T-MQP-Z-A	4K Starlight HDCVI Motorized Vari-focal IR Quick-to-install Eyeball Camera, PAL
	DH-HAC-HDW2802T-MQN-Z-A	4K Starlight HDCVI Motorized Vari-focal IR Quick-to-install Eyeball Camera, NTSC
Accessories (Optional)	PFA13F	Junction Box
	PFB211W	Wall Mount Bracket
	PFA152-E	Pole Mount Bracket
	PFA10C	Mount Adapter
	PFB220C	Ceiling Mount Bracket
	PFM800-4K	1-CH Passive Video Balun
	PFM321D	12V 1A Power Adapter
	PFM904	Integrated Mount Tester

Accessories

Optional:

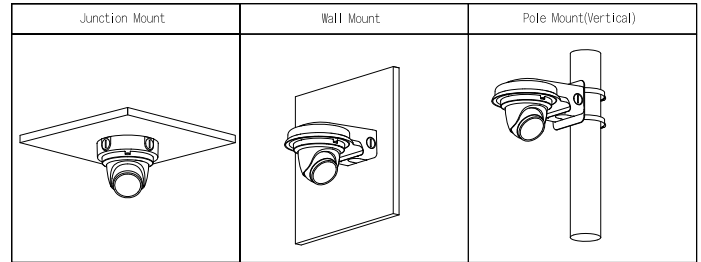|		
PFA13F Junction Box	PFB211W Wall Mount Bracket	PFA152-E Pole Mount Bracket
PFA10C Mount Adapter	PFB220C Ceiling Mount Bracket	PFM800-4K 1-CH Passive Video Balun
PFM321D 12V 1A Power Adapter	PFM904 Integrated Mount Tester	

Junction Mount	Wall Mount	Pole Mount(Vertical)

Dimensions (mm[inch])

109.0 [4.28]

83.3 [3.28]

∅135.0 [∅5.31]

∅84.0 [∅3.31]

4−4.5×5.5