

# DH-HAC-HDBW2221E 2MP WDR HDCVI IR Dome Camera



## · 120dB true WDR, 3DNR

- · Max 30fps@1080P
- · HD and SD dual-output
- · 3.6mm fixed lens (2.8mm, 6mm optional)
- · Max. IR length 30m, Smart IR
- · IP67, IK10, DC12V



### System Overview

Experience 1080P full HD video and the simplicity of reusing existing coaxial infrastructure with HDCVI. The camera features 120dB true WDR, which presents a high quality image with rich details and accurate color rendition for applications with complex lighting conditions. It offers various motorized/fixed lens models with a multi-language OSD and HD&SD dual-output. The outstanding performance and true WDR feature makes the camera an ideal choice for mid to large-size business and common projects where both highly reliable surveillance and construction flexibility are needed.

### 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.

 $\ensuremath{^*}$  Audio input is available for some models of HDCVI cameras.

#### Long Distance Transmission

HDCVI technology guarantees long-distance and real-time transmission without any loss. It supports up to 800m for 1080P Full 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.

#### 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.

#### Multi-outputs

The camera supports HDCVI and CVBS signal outputs simultaneously with two BNC connectors. Multi-outputs facilitates construction in such situations as debugging through a tester. It also offers the possibility for cooperating with multiple devices including analog matrix or monitor.

#### 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'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.

#### Protection

The camera's outstanding reliability is unsurpassed due to its rugged design. The camera is protected against water and dust with IP67, making it suitable for indoor or outdoor environments.

The camera complies with an IK10 vandal resistance rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in).

Supporting  $\pm 25\%$  input voltage tolerance, this camera suits even the most unstable power supply conditions. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

## Pro Series | DH-HAC-HDBW2221E

## **Technical Specification**

## Camera

Image Sensor	1/2.7" CMOS		
Effective Pixels	1928(H)×1088(V), 2.1MP		
Scanning System	Progressive		
Electronic Shutter Speed	PAL: 1.3s~1/30000s NTSC: 1s~1/30000s		
Minimum Illumination	0.03Lux/F2.0, 30IRE, 0Lux IR on		
S/N Ratio	More than 65dB		
IR Distance	Up to 30m (98feet)		
IR On/Off Control	Auto / Manual		
IR LEDs	24		
Lens			
Lens Type	Fixed lens / Fixed iris		
Mount Type	Board-in		
Focal Length	3.6mm (2.8mm, 6mm Optional)		
Max Aperture	F2.0		
Angle of View	H: 90° (115.6°/59.4°)		
Focus Control	N/A		
Close Focus Distance	800mm (500mm, 1800mm) 31.50'' (19.69'', 70.87'')		

## DORI Distance

Note: The DORI distance is a "general proximity" of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.

	DORI Definition	Distance
Detect	25px/m (8px/ft)	2.8mm:40m(132ft) 3.6mm: 53m(175ft) 6mm: 78m(257ft)
Observe	63px/m (19px/ft)	2.8mm:16m(53ft) 3.6mm: 21m(70ft) 6mm: 31m(103ft)
Recognize	125px/m (38px/ft)	2.8mm:8m(26ft) 3.6mm: 11m(35ft) 6mm: 16m(51ft)
Identify	250ppm (76px/ft)	2.8mm:4m(13ft) 3.6mm: 5m(17ft) 6mm: 8m(26ft)

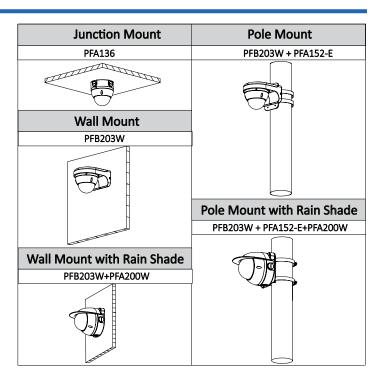
## Pan / Tilt / Rotation

Pan/Tilt/Rotation	Pan: 0° ~ 355° Tilt: 0° ~ 65° Rotation: 0° ~ 355°
Video	
Resolution	1080P (1920×1080)
Frame Rate	25/30fps@1080P, 25/30/50/60fps@720P
Video Output	1-channel BNC HDCVI high definition video output & 1-channel BNC CVBS video output CVBS tester out

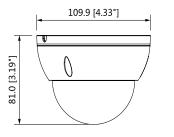
Day/Night	Auto (ICR) / Manual
OSD Menu	Multi-language
BLC Mode	BLC / HLC / WDR
WDR	120dB
Gain Control	AGC
Noise Reduction	2D / 3D
White Balance	Auto / Manual
Smart IR	Auto / Manual
Certifications	
Certifications	CE (EN55032, EN55024, EN50130-4) FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014) UL (UL60950-1+CAN/CSA C22.2 No.60950-1)
Interface	
Audio Interface	N/A
Eelectrical	
Power Supply	12V DC ±25%
Power Consumption	Max 5.5W (12V DC, IR on)
Environmental	
Operating Conditions	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH * Start up should be done at above-30°C (-22°F)
Storage Conditions	-30°C $^{\sim}$ +60°C (-22°F $^{\sim}$ +140°F) / Less than 90% RH
Ingress Protection & Vandal Resistance	IP67 & IK10
Construction	
Casing	Aluminium
Dimensions	Φ109.9mm×81.0mm (Φ4.33"×3.19")
Net Weight	0.31kg (0.68lb)
Gross Weight	0.41kg (0.90lb)

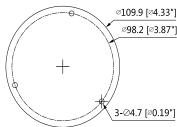
## Pro Series | DH-HAC-HDBW2221E

Ordering Information				
Туре	Part Number	Description		
	DH-HAC-HDBW2221EP 2.8mm			
	DH-HAC-HDBW2221EP 3.6mm	2MP WDR HDCVI IR Dome Camera, PAL		
2MP Camera	DH-HAC-HDBW2221EP 6mm			
ZIVIP Calliela	DH-HAC-HDBW2221EN 2.8mm			
	DH-HAC-HDBW2221EN 3.6mm	2MP WDR HDCVI IR Dome Camera, NTSC		
	DH-HAC-HDBW2221EN 6mm			
Accessories	PFA136	Junction box (For use alone)		
	PFB203W	Wall mount (For use alone or with PFA152-E pole mount)		
	PFA152-E	Pole mount (For use with PFB203W wall mount)		
	PFA200W	Rain shade (For use with PFB203W wall mount or with PFB203W wall mount and PFA152-E pole mount)		
	PFM800-E	Passive HDCVI Balun		
	PFM800-4MP	Passive HDCVI Balun		
	PFM801-4MP	Passive HDCVI Balun With Power		
	PFM809-4MP	16 channel Passive HDCVI Balun Receiver		
	PFM321	12V 1A Power Adapter		
	PFM320	12V 2A Power Adapter		
	PFM320D-015	12V 1.5A Power Adapter		



## **Dimensions (mm/inch)**





## Accessories

Optional:



PFA136 Junction box



PFA200W Rain shade



PFM801-4MP Passive HDCVI Balun With Power



PFM320 12V 2A Power Adapter

Rev 001.001





PFM800-E Passive HDCVI Balun

PFM809-4MP

PFM320D-015

Power Adapter

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16Channel Passive

HDCVI Balun Receiver



Adapter



PFA152-E Pole mount



Ø109.9 [Ø4.33"] Ø98.2 [Ø3.87"]



