

# Multi-Sensor Panoramic HDCVI Camera

## 3 x 2MP Multi-Sensor Panoramic HDCVI IR Bullet Camera

### HDCVI



### System Overview

The Dahua Multi-Sensor HDCVI Camera uses three (3) 2MP sensors to deliver a panoramic 180° scene. The camera provides one output for the 180° panoramic video, plus three separate 2MP HDCVI outputs, one for each sensor. One multi-sensor camera replaces multiple single-sensor cameras providing a higher return on investment for your security dollars. Each sensor is independently configurable, so contrast, backlight compensation, white balance control, and resolution adjustments can be tailored to create a custom image.

### Functions

#### 180° Panoramic View

The HDCVI Multi-sensor camera produces a seamless 180° view from three (3) 1/2.8 in. CMOS sensors.

#### Multi-channel Video Output

The camera comes with four (4) BNC connectors to deliver three (3) separate real-time video outputs corresponding to three independent sensors, and one (1) BNC connector to deliver the stitched panoramic real-time video simultaneously.

#### Intelligent Functions

The multi-sensor camera offers several intelligent functions that assist observation of the 180° scene. The E-PTZ function offers a digital patrol function that enlarges a partial view of the scene for enhanced security. The camera also detects an object that moves through any part of the scene and can trigger an alarm to alert an operator.

#### Three Signals over One Coaxial Cable

HDCVI technology simultaneously transmits three signals (video, audio and data) over a single coaxial cable. Dual-way data transmission allows the HDCVI camera to communicate with an HCVR to send control signals or to trigger alarms.

- Three (3) 1/2.8-in 2MP Progressive Scan STARVIS™ CMOS Sensors
- Simultaneous 180° Panoramic Output plus Three (3) 2MP HDCVI Video Outputs
- 3840 x 832 at 15 fps Maximum Resolution (Panoramic Image)
- True WDR (120 dB), 2D and 3D Noise Reduction
- E-PTZ and Motion Detection Functionality
- Maximum IR Distance 20 m (66 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty\*

#### Long Distance Transmission

HDCVI technology guarantees real-time transmission over long distances without loss of video quality. HDCVI cameras provide the same resolution as most IP network camera systems using existing RG-59, RG-6, or CAT 6 UTP cabling.

#### Simplicity

HDCVI technology seamlessly integrates traditional analog security systems with upgraded, high-quality HD video, making it the best choice to protect security investments. The plug and play approach enables full HD video security without the hassles of configuring a network.

#### Wide Dynamic Range

The multi-sensor camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) 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 delivers remarkable noise reduction with little impact to sharpness, especially under limited lighting condition. 3DNR, in addition, effectively decreases the bandwidth and saves storage space.

#### Defog

Utilizing Dahua's advanced algorithm technology, the Defog feature dynamically adjusts the camera's contrast settings to provide improved image quality in scenes affected by fog, smog, mist, smoke or other low-contrast interference.

#### Protection

The multi-sensor camera allows for ±25% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6 kV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact test (IK10), the multi-sensor camera is the choice for installation in even the most unforgiving environments.

\*Warranty applies to products sold through an authorized Dahua Dealer.

**Technical Specification**

**Camera**

Image Sensor	Three (3) 1/2.8-in. 2MP STARVIS™ CMOS Sensors
Effective Pixels	3840 (H) x 832 (V), Panoramic
Scanning System	Progressive
Electronic Shutter Speed	1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.005 Lux at F1.8 (30 IRE) 0 Lux at F1.8 with IR on
S/N Ratio	More than 65 dB
IR Distance	Distance up to 20.0 m (65.62 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Six (6)

**Lens**

Lens Type	Fixed Lens, Fixed Iris
Mount Type	Board-in
Focal Length	3.6 mm
Max. Aperture	F1.8
Horizontal Angle of View	180°
Close Focus Distance	500.0 mm (19.79 in.)

**DORI<sup>2</sup> Distance**

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
50 m (163 ft)	20 m (65 ft)	10 m (33 ft)	5 m (16 ft)

**Pan/Tilt/Rotation**

Range	Pan: 0° to 360° Tilt: 0° to 90° Rotation: 0° to 360°
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**Video**

Resolution	Panoramic Channel: 3840 x 832 Individual Sensor Channel: 2 MP
Frame Rate <sup>3</sup>	4K DVR: 3840 x 2160 at 15 fps 4MP DVR: 2560 x 1440 at 25 fps
Video Output	Four (4) Total Channels: • One (1) BNC HDCVI Panoramic Video • Three (3) BNC 2 MP HDCVI Video Channels
Video Transmission <sup>4</sup>	RG-59/U Coax 4K: 500 m (1640.42 ft) 4MP: 500 m (1640.42 ft) 1080p: 500 m (1640.42 ft)
	RG-6/U Coax 4K: 700 m (2296.59 ft) 4MP: 700 m (2296.59 ft) 1080p: 800 m (2624.67 ft)
	CAT 6 UTP (balun required) 4K: 300 m (984.25 ft) 4MP: 300 m (984.25 ft) 1080p: 300 m (984.25 ft)

Day/Night	Auto (ICR), Color, B/W
OSD Menu	Multi-language
BLC Mode	BLC, HLC, WDR
WDR	True Wide Dynamic Range (120 dB)
Gain Control	AGC
Noise Reduction	2D/3D
White Balance	Auto, Manual
Smart IR	Auto, Manual

**Interface**

Audio	Input: One (1) Channel, RCA Jack
Alarm	Input: Two (2) Channels Output: One (1) Channel
Test Interface	One (1) Channel, 2-pin CVBS Video Output
Upgrade Interface	One (1) Channel, 4-pin USB Input
Code Switcher	One (1) Physical Code Switch (switches the source of the preset video)
Menu Set	One (1) five-direction Keyboard

**Electrical**

Power Supply	12 VDC ± 25%, 2 A
Power Consumption	22 W

**Certifications**

Safety	EN55032, EN55024, EN50130-4 UL60950-1+CAN/CSA C22.2 No.60950-1)
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4-2014

**Environmental**

Operating Temperature	-30 °C to +60 °C (-22 °F to +140 °F), Less than 90% relative humidity Initiate start-up above -30 °C (-22 °F)
Storage Temperature	-30 °C to +60 °C (-22 °F to +140 °F), Less than 90% relative humidity
Ingress Protection	IP67
Vandal Resistance	IK10

**Construction**

Casing	Aluminum
Dimensions	286.0 mm x 119.0 mm x 106.0 mm (11.26 in. x 4.68 in. x 4.19 in.)
Net Weight	1.50 kg (3.30 lbs)
Gross Weight	2.0 kg (4.40 lbs)

1. Requires PoC Transceivers for each channel and an external power supply for each transceiver.  
 2. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.  
 3. This data represents the maximum frame rate the camera transmits when all four (4) channels are connected to a DVR. Use this data to connect the camera to an appropriate DVR.  
 4. Transmission distance results verified by real-scene testing in Dahua's test laboratory. Actual transmission distances may vary due to external influences, cable quality, and wiring structures.

Ordering Information		
Type	Part Number	Description
3 x 2MP Camera	DH-HAC-PFW3601N-A180	3 x 2MP Multi-sensor HDCVI Panoramic IR Bullet Camera, WDR
Accessories, optional	PFA124-B	Water-proof Junction Box
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFM800-4MP	Passive HDCVI Balun

**Accessories**

