

# 4K HDCVI Fisheye Camera

180° WDR IR Fisheye Camera

## HDCVI



- 1/2-in. 8 MP Progressive-scan CMOS Sensor
- 3840 x 2160 at 15 fps Maximum Resolution
- 180° Panoramic Lens
- True WDR (120 dB), 2D/3D DNR
- Maximum IR Distance 15 m (49 ft) with Smart IR
- On-device Lens Distortion Correction
- HD and SD Dual-output
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty\*



### System Overview

Experience the superior clarity of Dahua's Ultra 4K HDCVI cameras for vast coverage and superior image details. As the world's first 4K over coax cameras, the Dahua Ultra 4K HDCVI series leverages existing coax infrastructures to deliver forensic-level images seamlessly and more cost effectively. The 4K HDCVI fisheye camera offers a 180° panoramic view with multiple dewarping modes for clear pictures. The camera delivers high quality images with crisp details and accurate color rendition, even under complex lighting conditions thanks to True WDR (120 dB).

### Functions

#### On-device Lens Distortion Correction

The A83AR6 offers three views to optimize the field of view and to correct optical distortions caused by a fisheye lens. On-device Lens Distortion Correction (LDC) offers powerful built-in dewarping algorithms to deliver a superior and distortion-free fisheye image. The Horizontal and Vertical LDC mode corrects the image fully to guarantee a distortion free image and to provide a natural-looking, ultra-wide view in standard 16:9 aspect ratio. The built-in LDC feature allows the image to fill a monitor with the highest image resolution possible, without the need for special dewarping software on an HDCVI DVR or on a viewing software platform.

#### 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.

#### 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 surveillance 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 surveillance without the hassles of configuring a network.

#### Multiple Outputs

The camera supports HDCVI and CVBS signal outputs simultaneously with two BNC connectors. These output signals allow the camera to integrate with various devices, including analog matrix systems and monitors.

#### Dewarping Mode

Fisheye dewarping solves the problem of distortion in the circular panoramic view. The camera offers various dewarping modes for different installations and configurations, and each dewarping mode offers options to adjust each scene.

#### Wide Dynamic Range

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.

#### Protection

The camera complies with the IK10 Vandal Resistance impact 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.). Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

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.

### Technical Specification

#### Camera

|                          |   |
|--------------------------|---|
| Image Sensor             | 1/2-in. CMOS Sensor                               |
| Effective Pixels         | 3840 x 2160 (8 MP)                                |
| Scanning System          | Progressive                                       |
| Electronic Shutter Speed | 1/3 s to 1/100,000 s                              |
| Minimum Illumination     | Color: 0.01 Lux at F2.0 (30 IRE)<br>0 Lux (IR On) |
| S/N Ratio                | More than 65 dB                                   |
| IR Distance              | 15 m (49.21 ft)                                   |
| IR Control               | Auto, Manual                                      |
| IR LEDs                  | Three (3)   |

#### Lens

|                      |                                  |                                    |
|----------------------|----------------------------------|------------------------------------|
| Lens Type            | Fixed Lens / Fixed Iris          |                                    |
| Mount Type           | Board-in                         |                                    |
| Focal Length         | 2.5 mm                           |                                    |
| Maximum Aperture     | F2.0                             |                                    |
| Angle of View        | No LDC Correction                | Horizontal: 180°<br>Vertical: 100° |
|                      | LDC Vertical Mode                | Horizontal: 176°<br>Vertical: 73°  |
|                      | LDC Vertical/<br>Horizontal Mode | Horizontal: 170°<br>Vertical: 88°  |
| Close Focus Distance | 600 mm (23.62 in.)               |                                    |

#### DORI<sup>1</sup> Distance

| Detect (8 ppf) | Observe (19 ppf) | Recognize (38 ppf) | Identify (76 ppf) |
|----------------|------------------|--------------------|-------------------|
| 53 m (174 ft)  | 21 m (69 ft)     | 11 m (36 ft)       | 5 m (16 ft)       |

#### Video

|                                     |   |   |
|-------------------------------------|---|---|
| Resolution                          | 8 MP (3840 x 2160), 4 MP (2560 x 1440)                        |   |
| Frame Rate                          | 3840 x 2160 at 15 fps or<br>2560 x 1440 at 30 fps             |   |
| Video Output                        | One (1) BNC HDCVI 4K Channel, and<br>One (1) BNC CVBS Channel |   |
| Transmission Distances <sup>2</sup> | RG-59/U Coax  | 1080p: 500 m (1640.42 ft)<br>4 MP: 500 m (1640.42 ft)<br>4K: 500 m (1640.42 ft) |
|                                     | RG-6/U Coax   | 1080p: 800 m (2624.67 ft)<br>4 MP: 700 m (2296.59 ft)<br>4K: 700 m (2296.59 ft) |
|                                     | CAT 5e UTP<br>(balun required)                                | 1080p: 300 m (984.25 ft)<br>4 MP: 300 m (984.25 ft)<br>4K: 300 m (984.25 ft)    |

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

#### Interface

|       |  |
|-------|--|
| Audio | Input: Built-in Microphone                         |
| Alarm | Input: Two (2) Channels<br>Output: One (1) Channel |

#### Certifications

|                                     |  |
|-------------------------------------|--|
| Safety                              | UL60950-1+CAN/CSA C22.2 No.60950-1   |
| Electromagnetic Compatibility (EMC) | EN55032, EN55024, EN50130-4<br>CFR 47 FCC Part 15 Subpart B<br>ANSI C63.4-2014 |

#### Electrical

|                   |                   |
|-------------------|-------------------|
| Power Supply      | 12 VDC ± 25%      |
| Power Consumption | 7.4 W, with IR on |

#### Environmental

|                      |   |
|----------------------|---|
| Operating Conditions | -30° C to +60° C (-22° F to +140° F),<br>Less than 90% RH<br>* Initiate startup above -30° C (-22° F) |
| Storage Conditions   | -30° C to +60° C (-22° F to +140° F),<br>Less than 90% RH   |
| Ingress Protection   | IP67  |
| Vandal Resistance    | IK10  |

#### Construction

|              |  |
|--------------|--|
| Casing       | Aluminium                                    |
| Dimensions   | ø149.80 mm x 47.70 mm (ø5.90 in. x 1.88 in.) |
| Net Weight   | 0.56 kg (1.23 lb)                            |
| Gross Weight | 0.92 kg (2.02 lb)                            |

1. 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.

2. 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                                   |
|-----------------------|-------------|---|
| 8 MP Fisheye Camera   | A83AR6      | 8 MP HDCVI WDR IR Fisheye Camera              |
| Accessories, Optional | PFA100      | Mount Adapter                                 |
|                       | PFA105      | Mount Adapter                                 |
|                       | PFA110      | Mount Adapter                                 |
|                       | PFA152      | Pole Mount<br>(use with PFA100 and PFB302S)   |
|                       | PFB300C     | Ceiling Mount<br>(use with PFA105 and PFA110) |
|                       | PFB302S     | Wall Mount<br>(use with PFA100)               |

**Accessories**

Optional:



PFA100  
Mount Adapter



PFA105  
Mount Adapter



PFA110  
Mount Adapter



PFA152  
Pole Mount



PFB300C  
Ceiling Mount



PFB302S  
Wall Mount

| Wall Mount            | Pole Mount            |
|-----------------------|-----------------------|
| PFA100+PFB302S        | PFA100+PFB302S+PFA152 |
|                       |                       |
| <b>Ceiling Mount</b>  |                       |
| PFA105+PFA110+PFB300C |                       |
|                       |                       |

**Dimensions (mm)**

