aIhua TECHNOLOGY

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*

4K	WDR	Fisheye 360°	DC 12V	Vandal-proof	IP67

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 to the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 55 kg (120 lbs) of force. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

Supporting ±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) 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° Vertical: 100°
	LDC Vertical Mode	Horizontal: 176° Vertical: 73°
	LDC Vertical/ Horizontal Mode	Horizontal: 170° Vertical: 88°
Close Focus Distance		600 mm (23.62 in.)

DORI[1] 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 2560 x 1440 at 30 fps
Video Output	One (1) BNC HDCVI 4K Channel, and One (1) BNC CVBS Channel
Transmission Distances[2]	**RG-59/U Coax** 1080p: 500 m (1640.42 ft) 4 MP: 500 m (1640.42 ft) 4K: 500 m (1640.42 ft) **RG-6/U Coax** 1080p: 800 m (2624.67 ft) 4 MP: 700 m (2296.59 ft) 4K: 700 m (2296.59 ft) **CAT 5e UTP (balun required)** 1080p: 300 m (984.25 ft) 4 MP: 300 m (984.25 ft) 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 Output: One (1) Channel

Certifications

Safety	UL60950-1+CAN/CSA C22.2 No.60950-1
Electromagnetic Compatibility (EMC)	EN55032, EN55024, EN50130-4 CFR 47 FCC Part 15 Subpart B 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), Less than 90% RH * Initiate startup above -30° C (-22° F)
Storage Conditions	-30° C to +60° C (-22° F to +140° F), 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 (use with PFA100 and PFB302S)
	PFB300C	Ceiling Mount (use with PFA105 and PFA110)
	PFB302S	Wall Mount (use with PFA100)

Accessories

Optional:

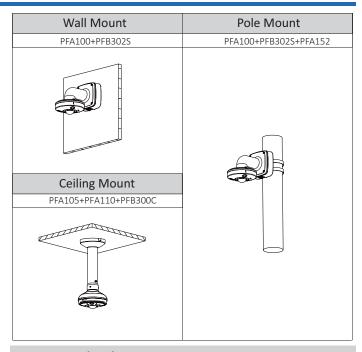

PFA100
Mount Adapter

PFA105
Mount Adapter

PFA110
Mount Adapter

PFA152
Pole Mount

PFB300C
Ceiling Mount

PFB302S
Wall Mount

Wall Mount	Pole Mount
PFA100+PFB302S	PFA100+PFB302S+PFA152

Ceiling Mount

PFA105+PFA110+PFB300C

Dimensions (mm)

47.7 mm
(1.88 in.)

ø149.8 mm
(ø5.90 in.)

ø90.0 mm
(ø3.54 in.)

3 x ø6.20 mm
(ø0.25 in.)