12 MP Network Fisheye Camera

Panoramic IR Fisheye Camera

- 1/1.7-in. 12 MP Progressive-scan CMOS Sensor
- 12 MP (4000 x 3000) at 30 fps Maximum Resolution
- Triple Stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codecs
- Built-in Microphone
- Multiple Dewarp Modes
- Analytics+ Functions — People Counting and Queue Management
- Intelligent Video System with Intelligent Business Analysis
- Maximum IR Distance 10 m (33 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

System Overview

Dahua Fisheye Cameras provide detailed panoramic views in a compact, low-profile design. The progressive-scan sensor combined with a fisheye lens provide a high-quality 360° panoramic view without blind spots, making the camera the ideal solution for wide and open areas, such as airports, shopping malls and banks. The camera offers Analytics+ functions at the edge – performing complex real-time perimeter people counting and queue management. The IP67 environmental protection rating and the IK10 vandal resistance ensure the camera operates in the harshest environments.

Functions

People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. The line crossing function counts the number of people crossing a defined line, and the regional function counts the number of people in a distinct, user-defined area. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area.

Heat Map

The built-in IVS features heat map functionality, an advanced feature that adds business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of information. Heat Maps can identify the most active areas of a retail space providing valuable data analysis for commercial applications.

Dewarping Mode

Fisheye dewarping solves the problem of distortion in the circular panoramic view. The camera offers multiple dewarping modes for different installations and configurations, either with a Dahua XVR, NVR, via the Web interface. Each dewarping mode offers options to adjust each scene.

Smart IR

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 10 m (33 ft).

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from –30° C to +60° C (–22° F to +140° F). The camera complies with an IK10 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.

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

Technical Specification

Camera

Image Sensor	1/1.7-in. 12 MP CMOS
Total Sensor Pixels	4000(H) x 3000(V)
RAM/ROM	4 GB / 4 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.001 lux at F2.0 (1/3 s, 30 IRE) Color: 0.01 lux at F2.0 (1/30 s, 30 IRE) 0 lux at F2.0 with IR on
S/N Ratio	49.70 dB
IR Distance	Up to 10 m (32.81 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Three (3)

Lens

Lens Type	Fixed
Mount Type	M12
Focal Length	1.98 mm
Maximum Aperture	F2.0
Angle of View	Horizontal: 185° Vertical: 180°
Focus Control	Fixed

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
40.0 m (131.23 ft)	16.0 m (52.49 ft)	8.0 m (26.25 ft)	4.0 m (13.12 ft)

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264H, H.264B, MJPEG
Streaming Capability	Three (3) Streams
Resolution	12 MP (4000 x 3000), 8 MP (2880 x 2880), 2880 x 2160, 3 MP (2048 x 1536), 1.3 MP (1280 x 960), D1 (704 x 480), CIF (352 x 240)

Effective Maximum Resolution, based on Dewarping Mode

Dewarping Mode	Mount Location	Resolution (H x V)
1 Original		4000 x 3000
1 Panoramic		4096 x 1024
2 Panoramic		2432 x 2432
1 Region		1216 x 1216
2 Regions		2432 x 2432
4 Regions		2432 x 2432
1 Original + 3 Regions		2432 x 2432

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.

Frame Rate	Main Stream	12 MP (4000 x 3000) at 30 fps
	Sub Stream 1	D1 (704 x 480) at 30 fps
	Sub Stream 2	D1 (704 x 480) at 30 fps
Bit Rate Control		CBR, VBR
Bit Rate		H.265: 52 Kbps to 16384 Kbps H.264: 88 Kbps to 16384 Kbps
Day/Night		
BLC Mode		Digital WDR
White Balance		Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control		Auto, Manual
Noise Reduction		3D DNR
Motion Detection		
Region of Interest		Off, On (4 Zone)
Advanced Features		Smart IR
Digital Zoom		
Privacy Masking		Off, On (4 Zone)

Audio

Compression	G.711a, G.711Mu, AAC, G.726

Network

Ethernet	
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP
Interoperability	ONVIF Profile S and G, GB/T28181, CGI
Streaming Method	
Maximum User Access	20 Users (total bandwidth: 240 MB)
Edge Storage	FTP Micro SD Card, maximum 256 GB
Web Viewer	IE version 9 or higher Firefox version 48.0.2 or higher Chrome version 48.0.2564.116 or higher
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL60950-1; CAN/CSA C22.2 No.60950-1-07 EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 IEC 60950-1:2005 (Second Edition)
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B EN 55032:2015, Class B; EN 61000-3-2:2014; EN 61000-3-3:2013; EN 55024:2010+A1:2015; EN 55035:2017; EN 50130-4:2011+A1:2015

Interface

Audio	Input: One (1) Channel, RCA plus a Built-in Mic Output: One (1) Channe, RCAl
Alarm	Input: Two (2) Channels (Wet Contact, 3 V to 5 V) Output: Two (2) Channels (Dry Contact, 30 V)

Electrical

Power Supply		12 VDC or PoE (802.3af, Class 0)
Power Consumption	12 VDC	Standard: 6.2 W with IR ON: 9.2 W
	PoE	Standard: 9.2 W with IR ON: 12.9 W

Environmental

Operating Conditions	-30 °C to +45 °C (-22 °F to +113 °F), Less than 95% RH
Storage Conditions	-30 °C to +70 °C (-22 °F to +158 °F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal and Plastic
Dimensions	ø149.80 mm x 59.80 mm (ø5.90 in. x 2.35 in.)
Net Weight	0.77 kg (1.70 lb)
Gross Weight	1.16 k g (2.56 lb)

Analytics+ Function[2]

People Counting	• Delivers accurate flow statistics from the following methods: **Region:** counts the number of people in a defined area, up to four (4) areas simultaneously. **Queue Management**: tracks the number of people in line and the amount of wait time.

Intelligent Video System Functions[2]

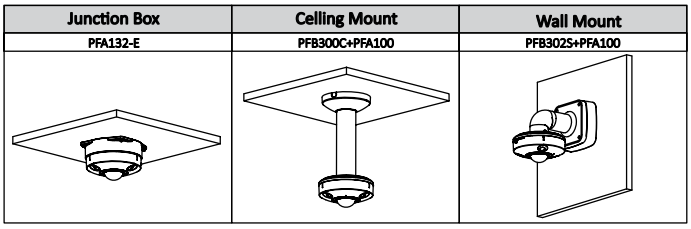
IVS triggers an alarm and takes a defined action for the following events:

Standard Features	• Tampering with the camera. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera. • IP Address Conflict
Premium Features	
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Advanced Feature	
Heat Map	Generates a visual representation of data.

2. The Face Capture, Perimeter Protection, and IVS functions cannot be used at the same time, only one Analytics+ or IVS function can be used at a time. In addition, the Smart H.265+ and the Smart H.264+ cannot be used simultaneously with either an Analytics+ or an IVS feature.

Ordering Information

Type	Part Number	Description
12 MP Fisheye	DH-IPC-EBW81242N	12 MP Panoramic Network IR Fisheye Camera
Accessories, optional	PFA100	Mount Adapter
	PFA105	Mount Adapter
	PFA110	Mount Adapter
	DH-PFA132-E	Junction Box
	PFA150	Pole Mount (use with PFB300C or DH-PFA132-E)
	PFA151	Corner Mount (use with DH-PFA132-E)
	PFB300C	Ceiling Mount (use with PFA100)
	PFB302S	Wall Mount (use with PFA100)



Accessories

Optional:

PFA100
Mount Adapter

PFA105
Mount Adapter

PFA110
Mount Adapter

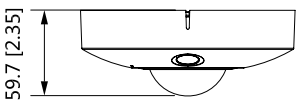
PFA150
Pole Mount

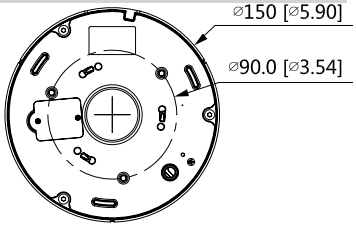
PFB300C
Ceiling Mount

DH-PFA132-E
Junction Box

PFB302S
Wall Mount

Dimensions (mm/inch)





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