

12 MP Network Fisheye Camera

360° Panoramic IR Fisheye Camera



- 1/1.7-in. 12 MP Progressive-scan STARVIS™ CMOS Sensor
- 12 MP (4000 x 3000) at 25 fps Maximum Resolution
- Triple Stream Encoding
- Smart H.265+ and H.264 Dual Codecs
- Day/Night (ICR), 3DNR, AWB, AGC, BLC
- Built-in Microphone
- Multiple Dewarp Modes
- Intelligent Video System with Intelligent Business Analysis
- Maximum IR Distance 10 m (33 ft)
- Micro SD Memory, IP67, IK10, PoE
- Five-year Warranty*



System Overview

Dahua Fisheye Cameras provide detailed panoramic views in a compact, low-profile design. The STARVIS™ 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 multiple dewarp modes for different installations and configurations that enhance the video for a specific scene. The IP67 environmental protection rating and the IK10 vandal resistance ensure the camera operates in the harshest environments.

Functions

True Day/Night

A day/night mechanical IR cut filter makes this camera ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens.

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. In addition to scene analytics, the camera detects and captures a snapshot of human face in a defined area within a scene, and offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

Intelligent Business Analysis

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.

Protection

The camera allows for $\pm 25\%$ input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV 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 tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

Technical Specification

Camera

Image Sensor	1/1.7-in. 12 MP STARVIS™ CMOS
Total Sensor Pixels	4000(H) x 3000(V)
RAM/ROM	1024 MB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.001 lux at F2.8 (1/3 s, 30 IRE) Color: 0.01 lux at F2.8 (1/30 s, 30 IRE) 0 lux at F2.8 with IR on
S/N Ratio	More than 50 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	Board-in
Focal Length	1.98 mm
Maximum Aperture	F2.8
Angle of View	Horizontal: 360°
Focus Control	Fixed

DORI Distance¹

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
42 m (138 ft)	17 m (56 ft)	8 m (26 ft)	4 m (13 ft)

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264
Streaming Capability	Three (3) Streams
Resolution	12 MP (4000 x 3000), 8 MP (2880 x 2880), 6 MP (3072 x 2048), 4 MP (2048 x 2048), 3 MP (2048 x 1536), UXGA (1600 x 1200), 1.3 MP (1280 x 960), D1 (704 x 576), CIF (352 x 288)

Effective Maximum Resolution, based on Dewarping Mode

Dewarping Mode	Mount Location	Resolution (H x V)
1 Panoramic	Ceiling/Ground	4684 x 1216
	Wall	2432 x 1216
2 Panoramic	Ceiling/Ground	2432 x 2432
1 Original + 3 Regions	All Locations	2432 x 2432
4 Regions	All Locations	2432 x 2432
1 Region	All Locations	1472 x 1216

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 at 25 fps or 8 MP at 30 fps
	Sub Stream 1	D1 at 30 fps
	Sub Stream 2	1.3 MP at 30 fps
Bit Rate Control	CBR, VBR	
Bit Rate	H.265: 3 Kbps to 9984 Kbps H.264: 8 Kbps to 16384 Kbps	
Day/Night	Auto (ICR), Color, B/W	
BLC Mode	BLC, HLC, DWDR	
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual	
Gain Control	Auto, Manual	
Noise Reduction	3D DNR	
Motion Detection	Off, On (4 Zone, Rectangle)	
Region of Interest	Off, On (4 Zone)	
Advanced Features	Smart IR, Defog	
Digital Zoom	16x	
Privacy Masking	Off, On (4 Area, Rectangle)	

Audio

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

Ethernet	RJ-45 (100/1000 Base-T)
Protocol	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, QoS, UPnP, NTP, Bonjour, 802.1x, Multicast, ICMP, IGMP, SNMP
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast, Multicast
Maximum User Access	10 Users, 20 Users
Edge Storage	NAS Local PC for instant recording Micro SD Card, maximum 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B

Interface

Audio	Input: One (1) Channel plus a Built-in Microphone Output: One (1) Channel
Alarm	Input: Two (2) Channels (5 VDC, 5 mA) Output: Two (2) Channels (30 VDC, 1 A; 50 VAC, 0.5 A)

Electrical

Power Supply	12 VDC or PoE (802.3af, Class 0)
Power Consumption	< 12 W

Environmental

Operating Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Less than 95% RH
Storage Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	ø149.80 mm x 47.70 mm (ø5.90 in. x 1.88 in.)
Net Weight	0.58 kg (1.28 lb)
Gross Weight	1.0 kg (2.20 lb)

Intelligence

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

Standard Features	<ul style="list-style-type: none"> • 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.
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Premium Features

Motion	An object moves through any part of the scene.
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Scene Change	A person or object moves the camera to change the scene or covers the camera to obscure the scene.
Abandoned/Missing Object	A target leaves an object in designated area, or a target removes an object from the same designated area.

Advanced Features

Heat Map	Generates a visual representation of data.
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Ordering Information

Type	Part Number	Description
12 MP Fisheye	NK8BR4	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 PFA105 and PFA110)
	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)

