Dahua TECHNOLOGY

5MP Panoramic Network Fisheye Camera

Indoor Fisheye Camera with Integrated IR

- 1/2.7-in. 5MP Progressive-scan STARVIS™ CMOS Sensor
- Triple-stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 5 MP at 25 fps Maximum Resolution
- 1.4 mm Fixed Lens
- True Wide Dynamic Range (120 dB)
- Built-in Microphone
- Maximum IR LED Distance 10 m (33 ft)
- Intelligent Video System
- Five-year Warranty*

5Mp | Fisheye | H.265+ | ICR D/N | Heatmap | WDR

System Overview

Experience the superior clarity of 5 MP video and the range of a 360° panoramic fisheye camera. The camera delivers high quality images with crisp details and accurate color rendition, even under complex lighting conditions thanks to True WDR (120 dB). The compact camera replaces multiple single-sensor cameras providing a higher return on investment for your security dollars, making it an excellent choice for small to mid-size business applications.

Functions

Wide Dynamic Range

The 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.

Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violation and intrusion detection. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera 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 analysis tool that add 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 activity.

Dewarping Mode

Fisheye dewarping solves the problem of distortion in the circular panoramic view. The camera connected to an NVR or a DVR that supports dewarping methods, 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.

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.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

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 the camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera.

Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) and to the PSIA (Physical Security Interoperability Alliance) specifications, ensuring interoperability between network video products regardless of manufacturer.

ONVIF ❖PSIA

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

Technical Specification

Camera

Image Sensor	1/2.7-in. 5 MP Progressive-scan STARVIS™ CMOS
Effective Pixels	2592(H) x 1944(V)
RAM/ROM	512 MB / 32 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual; 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.006 lux at F2.0 (1/3 s, 30 IRE) Color: 0.02 lux at F2.0 (1/30 s, 30 IRE) 0 lux at F2.0 (IR on)
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	1.4 mm
Max. Aperture	F2.0
Angle of View	Horizontal: 360° Vertical: 180°
Focus Control	Fixed

DORI[1] Distance	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
	28 m (92 ft)	11 m (36 ft)	6 m (20 ft)	3 m (10 ft)

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, MJPEG (sub stream only)
Streaming Capability	Three (3) Streams
Resolution	5 MP (2582 x 1944), 3 MP (2048 x 1536), UXGA (1600 x 1200), 1.3 MP (1280 x 960), 1080p (1920 x 1080), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)

Effective Maximum Resolution (at 5 MP), based on Dewarping Method[2]

Dewarping Method	Ceiling	Ground	Wall
Original	2592 x 1944	2592 x 1944	2592 x 1944
Original + 2 Regions	2760 x 2064 2752 x 1168	–	–
Original + 3 Regions	2760 x 2064	2760 x 2064	–
Original + 4 Regions	2760 x 2064 2760 x 1168	2760 x 2064 2760 x 1168	–
Original + 8 Regions	2760 x 2064	–	–
1 Panoramic	–	–	2760 x 2064
1 Panoramic + 1 Region	2760 x 2064	2760 x 2064	–
1 Panoramic + 3 Regions	–	–	2752 x 2064
1 Panoramic + 4 Regions	–	–	2760 x 2064 2760 x 1168
1 Panoramic + 6 Regions	2760 x 1832	2760 x 1832	–
1 Panoramic + 8 Regions	–	2760 x 2064	2760 x 2064
2 Panoramic	2760 x 1840	2760 x 1840	–

Frame Rate	Main Stream: 5 MP at 25 fps Sub Stream 1: D1 at 30 fps Sub Stream 2: D1 at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 3 Kbps to 40960 Kbps H.265: 3 Kbps to 40960 Kbps
Day/Night	Auto, Color, B/W
BLC Mode	BLC, HLC, True WDR (120 dB)
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control	Auto, Manual, Gain Priority, Shutter Priority
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zone, Rectangle)
Region of Interest	Off, On (4 Zone)
Digital Zoom	16x
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, PCM

Network

Ethernet	RJ-45 (100/1000 Base-T)
Protocol	IPv4/IPv6, HTTP, TCP/IP, UDP, UPnP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPoE, DDNS, FTP, QoS
Interoperability	ONVIF, CGI, API
Streaming Method	Unicast, Multicast
Maximum User Access	10 Users / 20 Users
Edge Storage	NAS (Network Attached Storage) Local PC for Instant Recording Micro SD Card Slot, maximum 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS, DMSS
Mobile Operating System	IOS, Android

Certifications

Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B

Interface

Audio	Input: One (1) Channel, Built-in Microphone Output: One (1) Channel
Alarm	Input: One (1) Channel, 5 mA, 5 VDC Output: One (1) Channel, 300 mA, 12 VDC

Electrical

Power Supply	12 VDC or PoE (802.3af Class 0)
Power Consumption	12 VDC: 2.7 W, 8.2 W with IR On PoE: 3.3 W, 10.1 W with IR On

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. Dewarping is performed on a NVR or a DVR that supports the specific dewarping method, the camera does not perform on-board dewarping.

Environmental

Operating Temperature	−10° C to +50° C (14° F to +122° F) Less than 95% RH
Storage Temperature	−10° C to +50° C (14° F to +122° F) Less than 95% RH

Construction

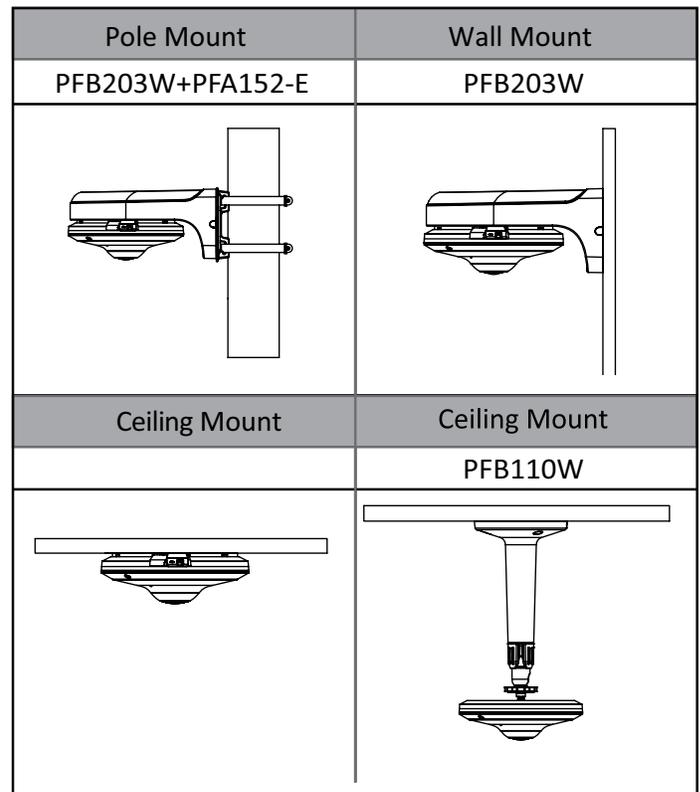|	
Casing	Metal and Plastic
Dimensions	⌀126.20 mm x 44.70 mm (⌀4.97 in. x 1.76 in.)
Net Weight	0.28 kg (0.62 lb)
Gross Weight	0.41 kg (0.90 lb)

Intelligence

IVS triggers an alarm and takes a defined action for the following events:
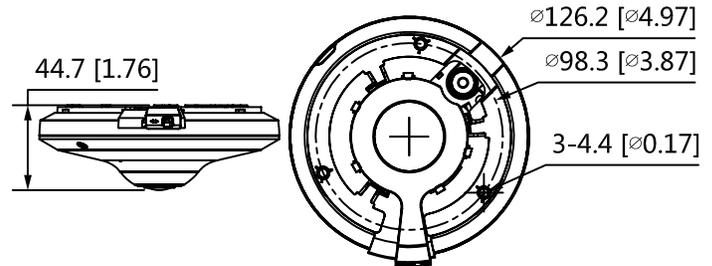
Standard Features	• Tampering with the camera. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera.
Premium Features	
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.
Advanced Feature	
Heat Map	Generates a visual representation of data.

Ordering Information

Type	Part Number	Description
5 MP Camera	N55BT5	5 MP Panoramic Indoor Network IR Fisheye Camera, IVS
Accessories, optional	PFB110W	Ceiling Mount
	PFA152-E	Pole Mount (use with PFB203W Wall Mount)
	PFB203W	Wall Mount
	DH-PFM321D-US	12 VDC, 1 A Power Adapter
	ADS-12AM-12 12012EPCU	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFB110W
Ceiling Mount

PFA152-E
Pole Mount

PFB203W
Wall Mount

DH-PFM321D-US
12 VDC, 1 A Power Adapter

ADS-12AM-12 12012EPCU
12 VDC, 1 A Power Adapter

Pole Mount	Wall Mount
PFB203W+PFA152-E	PFB203W
Ceiling Mount	Ceiling Mount
	PFB110W

Dimensions (mm/in.)

44.7 [1.76]

⌀126.2 [⌀4.97]
⌀98.3 [⌀3.87]
3-4.4 [⌀0.17]