dahua TECHNOLOGY

5MP Panoramic Network Fisheye Camera
5MP 360° True WDR Fisheye Camera

- 1/2.5-in. 5MP Progressive-scan CMOS Sensor
- Dual-stream Encoding
- Smart H.265+ and H.264 Dual Codec
- 5 MP at 25 fps, 3 MP at 30 fps Maximum Resolution
- 1.4 mm Fixed Lens
- True Wide Dynamic Range (120 dB)
- Built-in Microphone
- IP67 Ingress Protection and IK08 Vandal Resistance
- Intelligent Video System
- Five-year Warranty*

| 5MP | WDR | Fisheye 180° | DC 12V | Vandal-proof |

System Overview

Experience the superior clarity of 5MP 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 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.

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.

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.

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.

Environmental

With a built-in heater and a temperature range of −30 °C to +60 °C (−22 °F to +140 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP66 rating makes it suitable for demanding outdoor applications.

Protection

Supporting ±30% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

Onvif ◆PSIA

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

Technical Specification

Camera

Image Sensor	1/2.5-in. 5 MP Progressive-scan CMOS
Effective Pixels	2560(H) x 1920(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: 0.02 lux at F1.6 (1/3 s, 30 IRE) Color: 0.2 lux at F1.6 (1/30 s, 30 IRE) B/W: 0.05 lux at F1.6 (1/3 s, 30 IRE) B/W: 0.5 lux at 1.6 (1/30 s, 30 IRE)
S/N Ratio	More than 50 dB

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	1.4 mm
Max. Aperture	F1.6
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)

Pan/Tilt/Rotation

Range	Pan: 0˚ to 355˚ Tilt: 0˚ to 75˚ Rotation: 0˚ to 360˚

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264
Streaming Capability	Two (2) Streams
Resolution	5 MP (2560 x 1920), 3 MP (2048 x 1536), UXGA (1600 x 1200), 1.3 MP (1280 x 960), D1 (704 x 480), CIF (352 x 240)

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

Dewarping Method	Ceiling	Ground	Wall
Original	2592 x 1944	2592 x 1944	2592 x 1944
Original + 2 Regions	2912 x 2176 2912 x 1248	–	–
Original + 3 Regions	2912 x 2176	2912 x 2176	–
Original + 4 Regions	2912 x 2176 2912 x 2148	2912 x 2176 2912 x 1248	–
Original + 8 Regions	–	–	–
1 Panoramic	–	–	2912 x 1248
1 Panoramic + 1 Region	2912 x 2176	2912 x 2176	
1 Panoramic + 3 Regions	–	–	2912 x 2176
1 Panoramic + 4 Regions	–	–	2912 x 2176 1912 x 1248
1 Panoramic + 6 Regions	2904 x 1928	2904 x 1928	–
1 Panoramic + 8 Regions	2904 x 2106	2904 x 2106	2912 x 2148
2 Panoramic	–	2912 x 1936	–

Frame Rate	Main Stream: 5 MP at 25 fps or 3 MP at 30 fps
	Sub Stream: D1 at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 24 to 10240 Kbps H.265: 14 to 9984 Kbps
Day/Night	Electronic
BLC Mode	BLC, HLC, True WDR (120 dB)
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)
Digital Zoom	16x
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

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

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast, Multicast
Max. 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
Mobile Operating System	IOS, Android

Certifications

Safety	UL60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B

Interface

Audio	Built-in Microphone

Electrical

Power Supply	12 VDC, 1 A or PoE (802.3af Class 0)
Power Consumption	< 3.4 W

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.

Environmental

Operating Temperature	−30° C to +60° C (−22° F to +140° F) Less than 95% RH
Storage Temperature	−30° C to +60° C (−22° F to +140° F) Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK08

Construction

Casing	Metal
Dimensions	ø110.0 mm x 56.0 mm (ø4.33 in. x 2.2 in.)
Net Weight	0.38 kg (0.84 lb)
Gross Weight	0.44 kg (0.97 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	
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.

Ordering Information

Type	Part Number	Description
5MP Camera	N55BS5	5MP Panoramic Network Fisheye Camera, IVS
Accessories, optional	PFA106	Mount Adapter
	PFA152-E	Pole Mount
	PFB203W	Wall Mount
	PFB220C	Ceiling Mount (use with PFA106 mount adapter)
	PFB305W	Wall Mount (use with PFA106 mount adapter)
	DH-PFM321D-US	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFA152-E
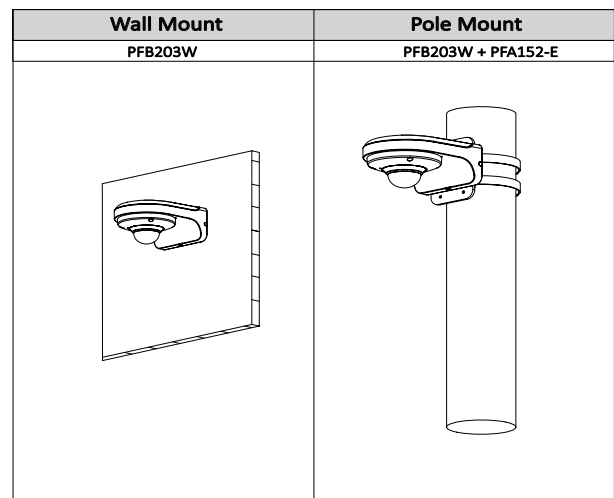Pole Mount

PFB203W
Wall Mount

DH-PFM321D-US
Power Adapter

PFA106
Mount Adapter

PFB220C
Ceiling Mount

PFB305W
Wall Mount

Wall Mount	Pole Mount
PFB203W	PFB203W + PFA152-E

Dimensions (mm/in.)

56.0 mm (2.20 in.)

ø110.0 mm (ø4.33 in.)

3 x ø3.40 mm (ø0.13 in.)

ø98.10 mm (ø3.86 in.)