Dahua TECHNOLOGY

5MP Panoramic Network Fisheye Camera

IP67 Fisheye Camera with Analytics+

- 1/2.7-in. 5MP Progressive-scan CMOS Sensor
- Triple Stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codec
- 5 MP (2592 x 1944) at 30 fps Maximum Resolution
- 1.4 mm Fixed Lens
- True Wide Dynamic Range (120 dB)
- Built-in Microphone
- Analytics+ Functions — People Counting and Heat Map
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

5Mp	Smart Codec	Heat Map	Fisheye	WDR	IK10

Wiz Mind

WizMind Series devices offer a variety of Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products may include perimeter protection, vehicle and crowd density statistics, video metadata, and advanced people counting with heat map functionality. WizMind is ideal for complex applications with demanding requirements that need advanced analytic capabilities.

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

People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics for the number of people in a defined region. The camera counts the number of people in an area and triggers an alarm if the number is above or below a set number of people. This function also delivers daily, monthly, and yearly reports.

Intelligent Video System

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, offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

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.

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 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.

Cybersecurity

Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental

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	1/2.7-in. 5 MP Progressive-scan CMOS
Effective Pixels	2592(H) x 1944(V)
RAM/ROM	512 MB / 128 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
S/N Ratio	> 56 dB

Lens

Lens Type	Fixed			
Mount Type	Board-in			
Focal Length	1.4 mm			
Max. Aperture	F2.0			
Angle of View	Horizontal: 360° Vertical: 180° Diagonal: 180°			
Focus Control	Fixed			
DORI[1] Distance	**Detect** (8 ppf)	**Observe** (19 ppf)	**Recognize** (38 ppf)	**Identify** (76 ppf)
	28.0 m (91.90 ft)	11.20 m (36.70 ft)	5.60 m (18.40 ft)	2.80 m (9.20 ft)

Pan/Tilt/Rotation

Range	Pan: 0˚ to 355˚ Tilt: 0˚ to 55˚ Rotation: 0˚ to 360˚

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264H, H.264B, MJPEG (sub stream only)
Streaming Capability	Three (3) Streams
Resolution	5 MP (2592 x 1944), 3 MP (2048 x 1536), UXGA (1600 x 1200), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 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: 2592 x 1944 at 30 fps
	Sub Stream 1: D1 at 30 fps
	Sub Stream 2: 720p at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 3 Kbps to 8192 Kbps H.265: 3 Kbps to 8192 Kbps
Day/Night	Color, B/W
BLC Mode	BLC, HLC, True WDR (120 dB), SSA
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 Zones, Rectangle)
Region of Interest	Off, On (4 Zones)
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

Compression	PCM, G.711a, G.711Mu, 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 (Profiles S, G, T), CGI, Milestone, Genetec, P2P
Streaming Method	Unicast, Multicast
Max. User Access	20 Users (total bandwidth: 64 Mbps)
Edge Storage	NAS (Network Attached Storage) Local PC for Instant Recording Micro SD Card Slot, maximum 256 GB
Web Viewer	IE 11, Chrome, Firefox
Management Software	DSS, DMSS
Mobile Operating System	IOS, Android
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

Safety	UL 60950-1, CAN/CSA C22.2 No.60950-1-07 EN 62368-1
Electromagnetic Compatibility (EMC)	CFR 47 FCC Part 15 Subpart B Electromagnetic Compatibility Directive 2014/30/EU

Interface

Audio	Input: One (1) Channel, RCA + Built-in Microphone Output: One (1) Channel, RCA
Alarm	Input: One (1) Channel, 5 mA,3 VDC to 5 VDC Output: One (1) Channel, 300 mA, 12 VDC

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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.

Electrical

Power Supply	12 VDC or PoE (802.3af Class 0)
Power Consumption	Basic: 3.7 W (12 VDC), 4.7 W (PoE) Maximum: 5.1 W (12 VDC), 6 W (PoE)

Environmental

Operating Temperature	−30° C to +55° C (−22° F to +131° F) Less than 95% RH
Storage Temperature	−40° C to +60° C (−40° F to +140° F)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	ø110.0 mm x 62.0 mm (ø4.33 in. x 2.44 in.)
Net Weight	0.38 kg (0.84 lb)
Gross Weight	0.50 kg (1.10 lb)

Installation Recommendations

Focal Length	Recommended Installation Height	Human Height	Camera Height	Surveillance Radius
1.4 mm	3.0 m to 4.0 m (118.11 in to 157.48 in.)	1.70 m (66.93 in.)	2.50 m (98.43 in.)	4.30 m (169.29 in.)
			3.0 m (118.11 in.)	4.20 m (165.35 in.)
			3.50 m (137.80 in.)	4.0 m (157.48 in.)
			4.0 m (157.48 in.)	3.70 m (145.67 in.)
			4.50 m (177.17 in.)	3.40 m (133.86 in.)

Analytics+ Functions

People Counting	• Delivers accurate real-time people counts in a defined area from the following methods: **Number Threshold:** counts the number of people in an area and triggers an alarm if the number is above or below a set number of people. **Wait Time:** determines if a person remains inside a defined area, set threshold between 1 s and 1800 s. • Counts people simultaneously from four (4) defined regions.
Heat Map	Supports two-dimensional analysis, displays a visual representation of data for number of people or average wait time in a defined area over a given time.

Intelligent Video System Functions

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
Tripwire	A human crosses a user-defined line.
Intrusion	A human enters or exits a defined perimeter.

Ordering Information

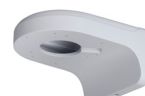| Type	Part Number	Description
5MP Camera	N55CS5	5MP Panoramic Network Fisheye Camera, Analytics+
Accessories, optional	PFA106	Mount Adapter
	PFA136	Junction Box
	PFA152-E	Pole Mount
	PFB203W	Wall Mount
	PFB220C	Ceiling Mount (use with PFA106 mount adapter)
	DH-PFM321D-US	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFA152-E
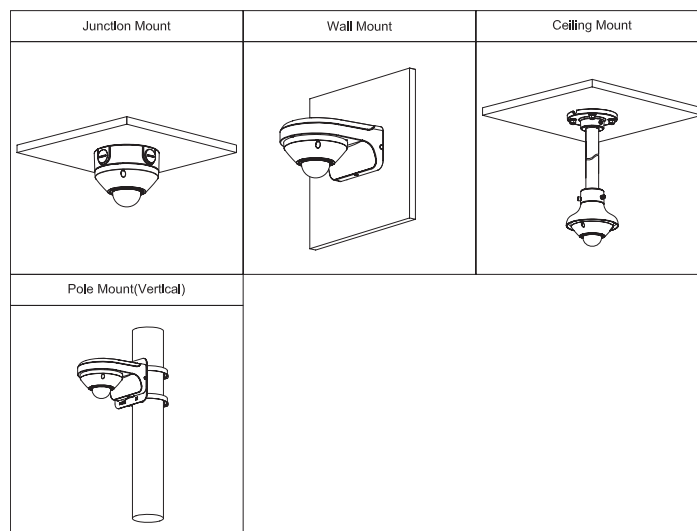Pole Mount

PFB203W
Wall Mount

DH-PFM321D-US
Power Adapter

PFA106
Mount Adapter

PFB220C
Ceiling Mount

PFA136
Junction Box

Junction Mount | Wall Mount | Ceiling Mount

Pole Mount(Vertical)

Dimensions (mm/in.)

36.0 [1.42]

62.0 [2.44]

⌀110.0 [⌀4.33]

⌀98.0 [⌀3.86]

⌀4.5 [⌀0.18]