Dahua TECHNOLOGY

5MP Panoramic Network Fisheye Camera

Indoor 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)
- Analytics+ Functions — People Counting and Heat Map
- Built-in Microphone
- Maximum IR LED Distance 10 m (33 ft)
- Five-year Warranty*

Wiz Mind

| 5Mp | Smart Codec | Heat Map | In Area No | Fisheye | WDR |

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 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.

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.

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.

Technical Specification

Camera

Image Sensor	1/2.7-in. 5MP 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 0 lux at F2.0 (IR on)
S/N Ratio	> 56 dB
IR Distance	Up to 10 m (32.81 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Three (3)

Lens

Lens Type	Fixed-focal
Mount Type	M12
Focal Length	1.4 mm
Max. Aperture	F2.0
Angle of View	Horizontal: 360° Vertical: 180° Diagonal: 180°
Focus Control	Fixed
Close Focus Distance	0.20 m (7.87 in.)

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)

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	5MP (2592 x 1944), 3MP (2048 x 1536), UXGA (1600 x 1200), 1.3MP (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[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: 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	Auto, 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 Zone, Rectangle)
Region of Interest	Off, On (4 Zone)
Digital Zoom	16x
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

Compression	PCM,G.711a, G.711Mu, G.726, G.723

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 (Profiles S, G, T), CGI, P2P
Streaming Method	Unicast, Multicast
Maximum 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

Electrical

Power Supply	12 VDC or PoE (802.3af Class 0)
Power Consumption	Basic: 3.6 W (12 VDC), 4.4 W (PoE) Maximum: 7.3 W (12 VDC), 8.8 W (PoE)

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.

Environmental

Operating Temperature	−10° C to +50° C (14° F to +122° F) Less than 95% RH
Storage Temperature	−40° C to +60° C (−40° F to +1402° F)

Construction

Casing	Metal and Plastic
Dimensions	ø126.20 mm x 44.70 mm (ø4.97 in. x 1.76 in.)
Net Weight	0.30 kg (0.70 lb)
Gross Weight	0.44 kg (0.97 lb)

Installation Recommendations

Focal Length	Recommended Installation Height	Human Height	Camera Height	Security 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

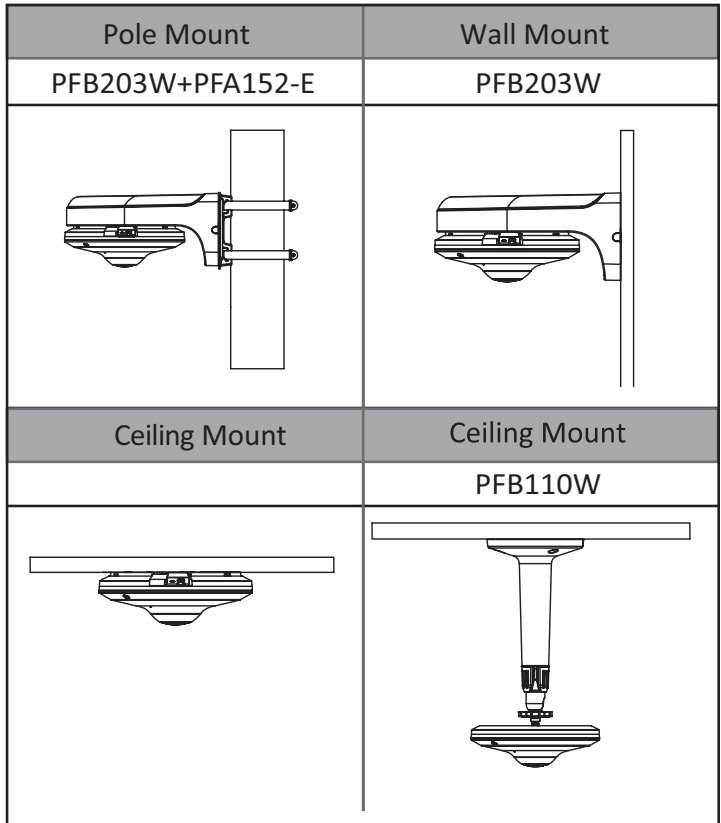IVS triggers an alarm and takes a defined action for the following events:

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	N55CT5	5MP Panoramic Indoor Network IR Fisheye Camera, Analytics+
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

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]