

# 8 MP Network Fisheye Camera

## 360° Panoramic IR Fisheye Camera



### Wiz Mind



WizMind Series devices offer advanced Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products deliver perimeter protection and advanced people counting with heat map functionality. WizMind is ideal for complex applications with demanding requirements that need advanced analytic capabilities.

### System Overview

Dahua Fisheye Cameras provide detailed panoramic views in a compact, low-profile design. The CMOS 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. 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

#### Panomorph Technology

The fisheye camera incorporates Panomorph Technology from Immervision, an industry leader in 360° solutions and applications. Panomorph technology is comprised of patented panomorph optics and viewing functionality for optimal 360° image quality. The panomorph optic includes magnified zones of interest based on an innovative distortion control concept. The viewing functionality removes all added distortion and enables 360° immersive navigation within live or recorded 360° video. Immervision is the only universally-accepted 360° dewarping standard; all major VMS platforms and camera vendors support this technology.

#### Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

- 1/1.7-in. 8MP Progressive-scan CMOS Sensor
- 8MP (3280 x 2480) at 30 fps Maximum Resolution
- Immervision Panomorph Lens RPL: B9VVT
- Triple Stream Encoding
- Smart H.265+ and Smart H.264+ Dual Codecs
- Analytics+ Functions — People Counting and Perimeter Protection
- Multiple Dewarp Modes
- Built-in Microphone and Speaker
- Day/Night (ICR), 3DNR, AWB, AGC, BLC
- Maximum IR Distance 10 m (32.81 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty\*



#### People Counting

The camera uses complex real-time people counting algorithms to deliver accurate flow statistics from two distinct people counting functions, Line Crossing and Regional. The line crossing function counts the number of people crossing a defined line, and the regional function counts the number of people in a distinct, user-defined area. People counting is ideal for measuring the number of customers entering or exiting a location and to monitor groups of people in a distinct location.

#### 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.

#### 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.

#### Protection

The camera allows for  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. 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. 8MP CMOS
Total Sensor Pixels	3280(H) x 2480(V)
RAM/ROM	4 GB / 2 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.01 lux at F2.0 (30 IRE) B/W: 0.001 lux at F2.0 (30 IRE) 0 lux at F2.0 with IR on
S/N Ratio	More than 56 dB
IR Distance	Up to 10.0 m (32.81 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Three (3)

#### Lens

Lens Type	Immersion Panomorph Lens – RPL: B9VVT Fixed
Mount Type	M12
Focal Length	1.29 mm
Maximum Aperture	F2.0
Angle of View	Horizontal: 360°
Focus Control	Fixed
Close Focus Distance	0.20 m (0.66 ft)

#### DORI Distance<sup>1</sup>

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
27.90 m (91.54 ft)	11.20 m (36.75 ft)	5.60 m (18.37 ft)	2.80 m (9.19 ft)

#### Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264H, MJPEG (substream only)
Streaming Capability	Three (3) Streams
Resolution	8MP (3280 x 2480), 2880 x 2160, 3MP (2048 x 1536), 1.3MP (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 Original	All Locations	3280 x 2480
1 Panoramic	Ceiling/Ground	4096 x 1024
	Wall	
2 Panoramic	Ceiling/Ground	2432 x 2432
1 Region	All Locations	1216 x 1216
2 Regions	All Locations	2432 x 2432
4 Regions	All Locations	2432 x 2432
1 Original + 3 Regions	All Locations	2432 x 2432

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	8MP at 30 fps
	Stream 1	D1 at 30 fps
	Stream 2	1.3MP at 30 fps
Bit Rate Control	CBR, VBR	
Bit Rate	H.265: 3 Kbps to 13891 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, Gain Priority, Shutter Priority, Manual	
Noise Reduction	3D DNR	
Motion Detection	Off, On (4 Zone, Rectangle)	
Region of Interest	Off, On (4 Zone)	
Advanced Features	Defog	
Privacy Masking	Off, On (4 Area, Rectangle)	

#### Audio

Compression	PCM, G.711a, G.711Mu, G.726, G.723
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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 (Profile S/Profile G/Profile T); CGI; P2P
Streaming Method	Multicast
Maximum User Access	20 Users
Edge Storage	Network Attached Storage (NAS) FTP, SFTP Micro SD Card, maximum 256 GB
Web Viewer	IE, Firefox, Safari
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	UL62368-1, CAN/CSA C22.2 No. 62368-1-14 EN62368-1
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15, Subpart B Electromagnetic Compatibility Directive 2014/30/EU Radio Equipment Directive 2014/53/EU

#### Interface

Audio	Input: One (1) Channel, RCA + Built-in Microphone Output: One (1) Channel, RCA + Built-in Speaker
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+ (IEEE802.3at, Class 4)	
Power Consumption	Basic	12 VDC: 6.5 W PoE: 6.1 W
	Maximum	12 VDC: 13 W PoE: 13.9 W

Environmental

Operating Conditions	-40 °C to +55 °C (-40 °F to +131 °F) Less than 95% RH
Storage Conditions	-30 °C to +70 °C (-22 °F to +158 °F)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	ø149.80 mm x 59.80 mm (ø5.90 in. x 2.35 in.)
Net Weight	0.79 kg (1.74 lb)
Gross Weight	1.21 k g (2.67 lb)

Recommended Installation Height

Indoor	Ceiling	3.0 m to 4.0 m (9.84 ft to 13.12 ft)
	Wall	2.0 m to 3.0 m (6.56 ft to 9.84 ft)
Outdoor	Ceiling	6.0 m to 8.0 m (19.69 ft to 26.25 ft)
	Wall	Depends on height of pole

Analytics+ Functions<sup>2</sup>

Perimeter Protection	<ul style="list-style-type: none"> <li>Detects human violations using the following methods:                             <ul style="list-style-type: none"> <li><b>Tripwire:</b> a target crosses a defined line.</li> <li><b>Intrusion:</b> a target enters or exits a defined perimeter.</li> </ul> </li> <li>Monitors a combination of detection methods.</li> </ul>
People Counting	<ul style="list-style-type: none"> <li>Delivers accurate flow statistics from the following methods:                             <ul style="list-style-type: none"> <li><b>Line Crossing:</b> counts a person as they cross a threshold in a defined direction.</li> <li><b>Region:</b> counts the number of people in a defined area.</li> </ul> </li> <li>Counts people simultaneously from four (4) threshold lines and four (4) defined regions.</li> </ul>

Intelligent Video System Functions

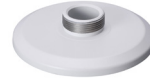
IVS triggers an alarm and takes a defined action for the following events:	
Standard Features	<ul style="list-style-type: none"> <li>Tampering with the camera.</li> <li>Error writing to an onboard Micro SD card.</li> <li>Error sending or receiving data over the network.</li> <li>Unauthorized access to the camera.</li> <li>IP Address Conflict</li> </ul>
Advanced Feature	
Heat Map	Generates a visual representation of data.
2. People Counting and Heat Map can be used concurrently, but the other IVS functions cannot be used together with People Counting or Heat Map. 3. People Counting can be configured in the camera's Web interface as well as via a Dahua NVR.	

Ordering Information

Type	Part Number	Description
8MP Fisheye	N88BR5V	8MP Panoramic Network IR Fisheye Camera,
Accessories, optional	PFA100	Mount Adapter
	DH-PFA132-E	Junction Box
	PFA150	Pole Mount (use with PFB302S or DH-PFA132-E)
	PFA151	Corner Mount (use with PFB302S or DH-PFA132-E)
	PFA152-E	Pole Mount (use with PFB302S or DH-PFA132-E)
	PFB300C	Ceiling Mount (use with PFA100)
	PFB302S	Wall Mount (use with PFA100)

Accessories

Optional:



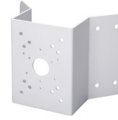
PFA100  
Mount Adapter



DH-PFA132-E  
Junction Box



PFA150  
Pole Mount



PFA151  
Corner Mount



PFA152-E  
Pole Mount



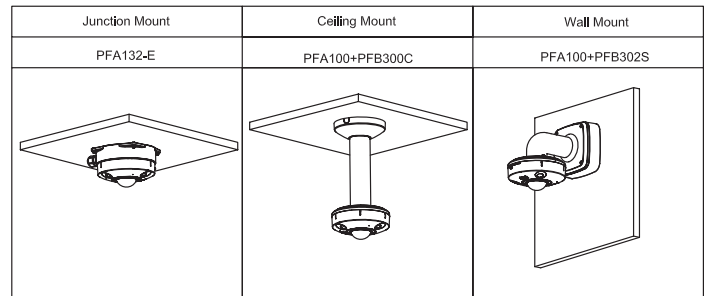
PFB300C  
Ceiling Mount



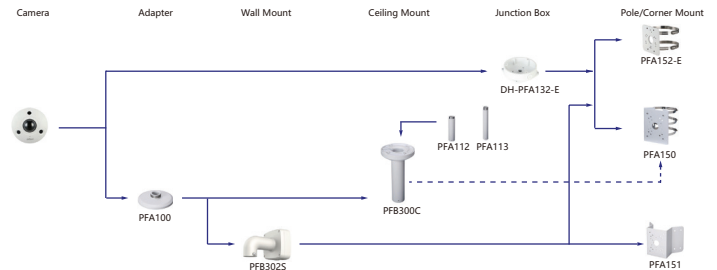
PFB302S  
Wall Mount



DH-PMF321D-US  
12 VDC, 1 A Power Adapter



Mounting Diagram



Dimensions (mm/inch)

