Multi-flex™ 4x2MP IP Camera
Multi-directional IR Camera with four (4) 2.7 mm to 12 mm Motorized Zoom Lenses

- Four (4) Independent 1/2.8-in 2MP STARVIS™ CMOS Sensors
- Dual-stream Encoding per Channel
- Smart H.265+ and Smart H.264+ Dual Codec
- 2MP at 25 fps Maximum Resolution per Sensor
- Four (4) 2.7 mm to 12 mm Motorized Optical Zoom Lenses
- Starlight Technology for Low Light Sensitivity
- Ultra Wide Dynamic Range (Channel 1) and True Day/Night (ICR)
- Intelligent Video System
- Maximum IR LED Distance 30 m (98 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

System Overview

The Dahua DH-IPC-PDBW5831N-B360 Multi-flex™ IP Camera features four (4) 1/2.8-in. 2MP Progressive-scan STARVIS™ CMOS Sensors each with a 2.7 to 12 mm motorized lens. Each sensor can be positioned and configured independently of the others allowing flexible, multi-directional video security that replaces multiple single-sensor cameras and is ideal for monitoring large areas. The camera offers Wide Dynamic Range, a True Day/Night IR Cut filter, IP67 Ingress protection and operation in extreme temperatures to deliver superior images in all lighting and environmental conditions.

Functions

Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing details in low light applications. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Ultra 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, Ultra WDR (140 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 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.

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.

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

With a temperature range of −30 °C to +60 °C (−22 °F to +140 °F), the camera is designed for extreme temperature environments. 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 and certified to rigorous dust and water immersion tests, the IP67 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.

Technical Specification

Camera

Image Sensor	Four (4) 1/2.8-in. 2MP STARVIS™ CMOS
Effective Pixels	1920(H) x 1080(V), per sensor
RAM/ROM	1024 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/3 s to 1/100000 s
Minimum Illumination	Color: 0.005 lux at F1.8 (1/3 s, 30 IRE) Color: 0.06 lux at F1.8 (1/30 s, 30 IRE) 0 lux at F1.8 (IR on)
S/N Ratio	More than 50 dB
IR Distance	Distance up to 30 m (98.43 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Eight (8) total LEDs; Two (2) LEDs per sensor

Lens

Lens Type	Motorized
Mount Type	Board-in
Focal Length	Four (4) 2.7 mm to 12 mm
Max. Aperture	F1.8
Angle of View	Horizontal: 105° to 44° Vertical: 54° to 25°
Optical Zoom	4x
Focus Control	Motorized
Close Focus Distance	0.20 m (0.66 ft)

DORI Distance[1]	Lens	Detect	Observe	Recognize	Identify
	Wide	45 m (148 ft)	18 m (59 ft)	9 m (30 ft)	4.5 m (15 ft)
	Tele	99 m (325 ft)	40 m (131 ft)	20 m (66 ft)	10 m (33 ft)

Installation Angle

Range	Pan: 0˚ to 360˚ Tilt: 0˚ to 80˚ Rotation: 0˚ to 355˚

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, H.264B, H.264H, MJPEG (sub stream)
Streaming Capability	Two (2) Streams per sensor
Resolution	1080P (1920 x 1080), 1.3 MP (1280 x 960), 720P (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream: 1080P at 25 fps
	Sub Stream: D1 at 25 fps
Bit Rate Control	CBR, VBR
Bit Rate	H.264: 32 to 8192 Kbps H.265: 12 to 4096 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, Ultra WDR (140 dB, channel 1 only), DWDR (channels 2, 3, and 4)
White Balance	Auto, Manual, Natural, Street Lamp, Outdoor, 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
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

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

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
Interoperability	ONVIF, CGI
Streaming Method	Unicast / Multicast
Maximum User Access	10 Users /20 Users
Edge Storage	Network Attached Storage (NAS) Local PC for instant recording Micro SD Card Slot, 256 GB maximum
Web Viewer	IE
Management Software	SmartPSS², 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
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B

Interface

Audio	Input: One (1) Channel Output: One (1) Channel
RS485	One (1) Port
Alarm	Input: One (1) Channel (5 mA, 5 VDC) Output: One (1) Channel (300 mA, 12 V)

Electrical

Power Supply	24 VAC, 3 A or PoE+ (IEEE802.3at Class 4)
Power Consumption	24 VAC: 9.9 W, 31.2 W with IR on PoE: 10.6 W, 23.8 W with IR on

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	IK10

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. SmartPSS version v2.02.0000007.0 or higher required to display video from all four channels simultaneously.

Construction

Casing	Metal
Dimensions	ø286.10 mm x 111.30 mm (ø11.26 in. x 4.38 in.)
Net Weight	2.70 kg (5.95 lb)
Gross Weight	3.60 kg (7.94 lb)

Intelligence

IVS triggers an alarm and takes a defined action for the following events:
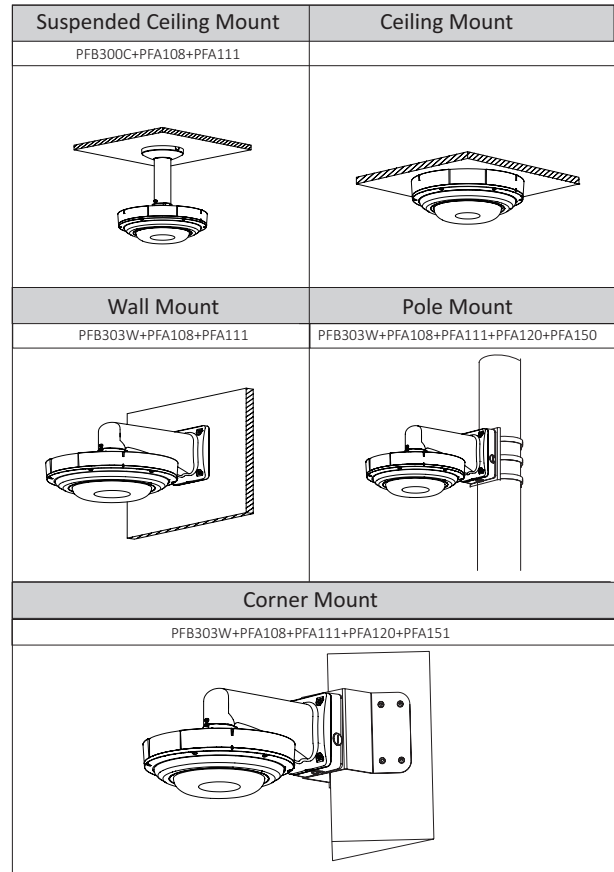(IVS functions available on one channel at a time.)

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.

Ordering Information

Type	Part Number	Description
Panoramic Camera	DH-IPC-PDBW5831N-B360	Multi-flex™ 4x2MP IP Camera, IVS
Accessories, optional	PFA108	Mount Adapter
	PFA111	Mount Adapter
	PFA120	Junction Box (use with PFB303W)
	PFA150	Pole Mount (use with PFA108 and PFA111 Mount Adapters and PFB303W Wall Mount)
	PFA151	Corner Mount (use with PFA108 and PFA111 Mount Adapters and PFB303W Wall Mount)
	PFB300C	Ceiling Mount (use with PFA108 and PFA111 Mount Adapters)
	PFB303S	Parapet Mount (use with PFA108 and PFA111 Mount Adapters)
	PFB303W	Wall Mount Bracket (use with PFA108 and PFA111 Mount Adapters)
	A24-3A	24 VAC, 3 A Power Adapter

Accessories

Optional:

PFA108 Mount Adapter	PFA111 Mount Adapter	PFA120 Junction Box	PFA150 Pole Mount
PFA151 Corner Mount	PFB300C Ceiling Mount	PFB303W Wall Mount	A24-3A Power Adapter

Suspended Ceiling Mount	Ceiling Mount
PFB300C+PFA108+PFA111	

Wall Mount	Pole Mount
PFB303W+PFA108+PFA111	PFB303W+PFA108+PFA111+PFA120+PFA150

Corner Mount
PFB303W+PFA108+PFA111+PFA120+PFA151

Dimensions (mm/inch)

ø286.1 [ø11.26"]
ø210.0 [ø8.27"]
4-Ø4.5 [Ø0.18"]

80.4 [3.17"]
111.3 [4.38"]