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Multi-sensor Panoramic Dome Camera

4 x 2 MP Multi-sensor Panoramic Network IR Dome Camera

- Four (4) 1/2.8-in. 2 MP Progressive Scan STARVIS™ CMOS Imagers
- Triple-stream Encoding with Smart H.265+ Compression
- Maximum Resolution: 4096 x 1800 at 25 fps
- Starlight Technology for Ultra-low Light Sensitivity
- Supports 180° Panoramic View
- Day/Night (ICR), 3DNR, AWB, AGC, BLC
- Intelligent Video System
- Maximum IR LED Distance 30 m (98 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- PoE+ Support

System Overview

The multi-sensor camera provides added flexibility for capturing wide area video surveillance. With four (4) 2 MP sensors working in tandem to create a comprehensive 180° overview, the camera can replace multiple single-sensor cameras providing a higher return on investment. The multi-sensor camera features contrast, backlight compensation, white balance, and resolution control to create a crystal-clear image even in the most challenging lighting conditions. Plus, with IP67 and IK10 ratings, the camera is ready for any application.

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 down to 0.007 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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

Intelligent Business Analysis

The built-in IVS features heat map and E-PTZ functionality, advanced features that add business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of information. The E-PTZ feature scans a portion of the panoramic scene and zooms that scene for improved observation.

True Day/Night

A day/night mechanical IR cut filter makes this camera ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens.

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. The camera's integrated infrared illumination provides high-performance in extreme low-light environments up to 30 m (98 ft).

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 -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning, and its IP67 ingress protection make it the choice for installation in even the most unforgiving environments. The camera complies with the IK10 Vandal Resistance 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.).

Technical Specification

Camera

Image Sensor	Four (4) 1/2.8-in. 2 MP STARVIS™ CMOS Sensors
Effective Pixels	4096(H) x 1800(V)
RAM/ROM	1024 MB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual: 1/3 s to 1/100,000 s
Minimum Illumination	Color: 0.007 lux at F2.0 (1/3 s, 30 IRE) Color: 0.05 lux at F2.0 (1/30 s, 30 IRE) 0 lux at F2.0 with IR on
S/N Ratio	More than 50 dB
IR Distance	Up to 30.0 m (98.43 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Six (6)

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	3.0 mm
Max. Aperture	F2.0
Angle of View	Horizontal: 180˚ Vertical: 80˚
Focus Control	Fixed

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
41 m (135 ft)	16 m (53 ft)	8 m (26 ft)	4 m (13 ft)

Pan/Tilt/Rotation

Range	Pan: 0˚ to 355˚ Tilt: 0˚ to 75˚ Rotation: ±20˚

Video

Compression	Smart H.265+, H.265, Smart H.264+, H.264, MJPEG
Streaming Capability	Three (3) Streams
Resolution	4096 x 1800, 3840 x 1680, 2880 x 1264, 1920 x 832, 1280 x 560, 1024 x 452
Frame Rate	Main Stream: 4096 x 1800 at 25 fps
	Sub Stream 1: 1024 x 452 at 30 fps
	Sub Stream 2: 1920 x 832 at 30 fps
Bit Rate Control	CBR, VBR
Bit Rate	H.265: 9 Kbps to 9472 Kbps H.264: 24 Kbps to 15616 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, DWDR

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)
Smart IR	Support
Digital Zoom	16x
Privacy Masking	Off, On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, AAC, 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, Bonjour, 802.1x, Multicast, ICMP, IGMP, SNMP
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast, Multicast
Maximum User Access	10 Users / 20 Users
Edge Storage	NAS Local PC for instant recording Micro SD Card, maximum 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	EN 60950:2000 UL60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B

Interface

Video	One (1) Port (use for adjustment only)
Audio	Input: One (1) Channel, RCA Output: One (1) Channel, RCA
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	24 VAC or PoE+ (802.3at Class 4), 1.5 A
Power Consumption	25.5 W, maximum

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 Conditions	-40° C to +60° C (-40° F to +140° F) Less than 95% RH
Storage Conditions	-40° C to +60° C (-40° F to +140° F) Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal
Dimensions	ø212.0 mm x 169.50 mm (ø8.35 in. x 6.67 in.)
Net Weight	3.60 kg (7.90 lb)
Gross Weight	4.60 kg (10.10 lb)

Intelligence

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

Standard Features	• Tampering with the camera. • Camera loses or changes focus drastically. • 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.
E-PTZ	Scans a portion of the panoramic scene and zooms that scene for improved observation.

Ordering Information

Type	Part Number	Description
4 x 2 MP Camera	DH-IPC-PDBW8800N-A180	Four (4) x 2 MP Multi-sensor Panoramic Network IR Dome Camera, IVS
Accessories, Included	PFA111	Mount Adapter
Accessories, Optional	PFA120	Junction Box
	PFA140	Power Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB300C	Ceiling Mount
	PFB303S	Parapet Mount
	PFB303W	Wall Mount

Accessories

Included:

PFA111
Mount Adapter

Optional:
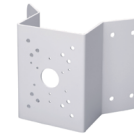

PFA140
Power box

PFB300C
Ceiling Mount

PFA120
Junction Box

PFA150
Pole Mount

PFA151
Corner Mount

PFB303S
Parapet Mount

PFB303W
Wall Mount

Ceiling Mount	Wall Mount
PFA111 + PFB300C	PFA111 + PFB303W + PFA120
Power Box Mount	**Pole Mount**
PFA111 + PFB303W + PFA140	PFA111 + PFB303W + PFA150
Corner Mount	**Parapet Mount**
PFA111 + PFB303W + PFA151	PFA111 + PFB303S

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Dimensions (mm/inch)

212.0 mm
(8.35 in.)

169.50 mm
(6.67 in.)

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(ø8.35 in.)