alhua TECHNOLOGY

4 x 8MP Enhanced Starlight Multi-sensor Network Panoramic Bullet Camera

180° Stitched Panoramic Camera with WizMind Analytics+

- Four (4) 1/1.8-in. 8MP Progressive Scan CMOS Imagers
- Triple-stream Encoding
- AI Coding, Smart H.265+ and Smart H.264+ Dual Codec
- Maximum Resolution: 32MP (8192 x 3840) at 30 fps
- Enhanced Starlight Technology for Low-light Sensitivity
- Analytics+ Features: Perimeter Protection, Crowd and Vehicle Density
- Maximum IR LED Distance 30 m (98 ft)
- EPTZ: Enlarge and Track the Targets of Intelligent Alarms
- ArcticPro Series Camera - Operational down to –40° C (–40° F)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Five-year Warranty*

WizMind

ArcticPro

| 32Mp | Panoramic Splicing | IP67&IK10 | Vehicle Density | Crowd Density | IVS |

WizMind Series devices offer Dahua Analytics+ functions for comprehensive, human-oriented analytic solutions. WizMind Series products are ideal for complex applications with demanding requirements that need advanced analytic capabilities.

System Overview

The Dahua 4 x 8MP Enhanced Starlight Multi-sensor Network Panoramic Bullet Camera provides added flexibility for capturing wide area video security. With four (4) 8MP sensors working in tandem to create a comprehensive 180° overview, the camera can replace multiple single-sensor cameras. The multi-sensor camera features contrast, backlight compensation, white balance, and resolution control to create clear images even in the most challenging lighting conditions. The camera is ready for any application with IP67 and IK10 ratings.

Functions

Enhanced Starlight Technology

For challenging low-light applications, Dahua's Enhanced Starlight Technology offers best-in-class light sensitivity, capturing color details in conditions as low as 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

Electronic Pan/Tilt/Zoom (EPTZ) Functionality

With advanced target detection and tracking algorithms, Dahua EPTZ technology can zoom in and track multiple humans and vehicles. It provides rich details and a panoramic view at the same time. The EPTZ feature has five modes including a wide-angle view that can hold one (1), three (3), or five (5) different sub-images for a more versatile security system.

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.

Distortion Correction

With advanced distortion correction algorithm, Dahua Distortion Correction corrects the image distortion in both horizontal and vertical directions to be consistent with the actual situation.

Panoramic Splicing

Dahua Panoramic Splicing uses a multi-band blending algorithm to create a seamless panoramic image from multi-sensor cameras. The technology effectively solves the problems of brightness, chromatic aberration and ghosting in the stitching area to create a non-distorted, clear 180° view.

ArcticPro

The Dahua ArcticPro Series of extreme-environment cameras combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as –40° C (–40° F) without the need for an internal heater. The lack of a heater reduces the camera's power consumption and saves operating costs. For applications that demand high-resolution video with advanced features in extremely cold environments, the Dahua ArcticPro Series offers a camera to satisfy the most demanding requirements.

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 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.). Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

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*Warranty applies to products sold through an authorized Dahua Dealer.

Technical Specification

Camera

Image Sensor	Four (4) 1/1.8-in. 8MP CMOS Sensor
Effective Pixels	8192 (H) x 3840 (V)
RAM/ROM	4 GB/8 GB
Scanning System	Progressive
Electronic Shutter Speed	1/3 s to 1/100,000 s

Minimum Illumination	Color	0.005 lux at F1.6
	B/W	0.0005 lux at F1.6
	IR On	0 lux at F1.6

S/N Ratio	> 56 dB
IR Distance	Up to 30.0 m (98.43 ft)
IR Control	Auto, Manual
IR LEDs	Eight (8)

Lens

Lens Type	Fixed-focal
Mount Type	M16
Focal Length	2.8 mm
Maximum Aperature	F1.6

Angle of View	Horizontal	180°
	Vertical	100°

Focus Control	Fixed
Close Focus distance	1.80 m (5.90 ft)

DORI Distance[1]	Detect	Observe	Recognize	Identify
	84.0 m (275.59 ft)	33.60 m (110.24 ft)	16.80 m (55.12 ft)	8.40 m (27.56 ft)

Pan/Tilt/Rotation

Range	Pan	0° to 355°
	Tilt	0° to 90°
	Rotation	0° to 360°

Video

Compression	AI Coding, Smart H.265+, H.265, Smart H.264+, H.264, H.264H, H.264B, MJPEG (Sub Stream Only)
Streaming Capabilities	Three (3) Streams
Resolution	8192 x 3840, 7168 x 3360, 5760 x 2700, 4096 x 1920, 2880 x 1360, 2304 x 1080, 2048 x 960, 1280 x 600

Frame Rate	Main Stream	8192 x 3840 at 30 fps
	Sub Stream 1	1280 x 600 at 30 fps
	Sub Stream 2	2304 x 1080 at 30 fps

Bit Rate Control	CBR, VBR
Bit Rate	H.265: 38 to 32768 kbps H.264: 96 to 32768 kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, DWDR
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual, Regional Custom
Gain Control	Gain Priority, Shutter Priority, Manual
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zone, Rectangle)
Region of Interest	Off, On (4 Zone)
Privacy Mask	Off, On (4 Zone)

Audio

Compression	PCM, G.711a, G.711Mu, G.726, G.723, AAC
Input	One (1) Channel, RCA
Output	One (1) Channel, RCA

Network

Ethernet	RJ-45 (10/100/1000 Base-T)
Protocol	HTTP, HTTPs, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4, IPv6, QoS, UPnP, NTP, Bonjour, 802.1x, Multicast, ICMP, IGMP, SNMP
Interoperability	ONVIF (Profile, S, G, T), CGI, P2P
Maximum User Access	20 Users
Edge Storage	NAS, FTP, SFTP, MicroSD Card (Maximum 256 GB)
Web Viewer	Edge, Chrome (Version 86 or later)
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 Importng X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot/Execution/Upgrade

Certifications

Safety	EN62368-1 UL 62368-1 CAN/CSA C22.2 No. 62368-1-14
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B Electromagnetic Compatability Directive

Interface

Video	One (1) Port, BNC (Adjustment Only)

Alarm	Input	Two (2) Channels (3 VDC to 5 VDC, 5 mA)
	Output	Two (2) Channels (30 VDC, 1 A, 50 VAC, 0.5 mA)

RS-485	One (1) Port (Baud Rate Range: 1200 bps to 115200 bps)

Electrical

Power Supply	12 VDC, 24 VAC, or PoE+ (802.3at Class 4)
Power Consumption	Basic: 10.6 W (12 VDC), 11.9 W (24 VAC), 11.9 (PoE) Maximum: 22.2 W (12 VDC), 25 W (24 VAC), 25 W (PoE)

Environmental

Operation 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 and Plastic
Dimensions	298.30 mm x 172.50 mm x 120.50 mm (11.74 in. x 6.79 in. x 4.74 in.)
Net Weight	3.16 kg (6.97 lb)
Gross Weight	4.06 kg (8.95 lb)

Analytics+ Functions

Crowd Density	Detects crowd density and displays data on a bar or line chart. Triggers an alarm when the crowd quantity or density exceeds a set threshold in selected area. • Detects up to 1024 people • Applies to eight (8) regions

Analytics+ Functions (Cont.)

Vehicle Density	Analyses the scene for the number of vehicles and vehicle congestion selected lanes. • Offers traffic congestion and upper parking limit functions • Detects vehicle density and displays data on a bar or line chart • Minimum pixel requirement: ≥ 80 pixels • Applies to 16 regions • Detection radius up to 80 m (262.47 ft)

Intelligent Video System (IVS) 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 MicroSD card. • Error sending or receiving data over the network. • Unauthorized access to camera. • IP address conflict.
Premium Features	
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.

Installation Recommendations- Crowd Density

Height	Detection Angle	Blind Spot	Maximum Detection Length
6.0 m (19.68 ft)	30°	1.6 m (5.25 ft)	17.0 m (55.77 ft)
	45°	0 m (0 ft)	17.0 m (55.77 ft)
10.0 m (32.80 ft)	30°	2.7 m (8.86 ft)	32.0 m (104.99 ft)
	45°	0 m (0 ft)	32.0 m (104.99 ft)
15.0 m (49.21 ft)	30°	4.0 m (13.12 ft)	30.0 m (98.43 ft)
	45°	0 m (0 ft)	30.0 m (98.43 ft)

Installation Recommendations- Vehicle Density

Height	Detection Angle	Blind Spot	Maximum Detection Length
30.0 m (98.43 ft)	30°	8.0 m (26.25 ft)	73.0 m (239.50 ft)
	45°	0 m (0 ft)	73.0 m (239.50 ft)
45.0 m (147.64 ft)	30°	11.0 m (36.09 ft)	68.0 m (223.10 ft)
	45°	0 m (0 ft)	68.0 m (223.10 ft)
60.0 m (196.85 ft)	30°	16.0 m (52.49 ft)	51.0 m (167.32 ft)
	45°	0 m (0 ft)	51.0 m (167.32 ft)

Ordering Information

Type	Part Number	Description
Camera	DH-IPC-PFW83242-A180-S2	4 x 8MP Enhanced Starlight Multi-sensor Network Panoramic Bullet Camera
Accessories (Optional)	DH-PFA120-SG	Junction Box
	DH-PFA150-SG	Pole Mount, Silver
	PFA151	Corner Mount
	DHI-TF-P100 Series	Micro SDXC Cards
	DH-PFM920I-5EU-U	CAT5e UTP Cable
	DH-PFM320D-US	12 VDC, 2 A Power Adapter

Accessories

Optional:

DH-PFA120-SG
Junction Box

DH-PFA150-SG
Pole Mount

PFA151
Corner Mount

DH-PFM320D-US
Power Adapter

DHI-TF-P100 Series
Micro SDXC Cards

DH-PFM920I-5EU-U
CAT5e UTP Cable

Installation

Ceiling Mount	Wall Mount	Pole Mount(Vertical)
No Accessory	DH-PFA120-SG	DH-PFA120-SG + DH-PFA150-SG

Dimensions

mm [inch]

298.3 [11.74]
187.0 [7.36]
172.5 [6.79]
120.5 [4.74]