dahua TECHNOLOGY

DH-IPC-PFW81642-A180

4 × 4 MP Multi-Sensor Panoramic Bullet Wizmind Network Camera

WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

Series Overview

The splicing camera supports a 180° panoramic view and 4-channel hardware splicing to realize HD panoramic surveillance. The camera supports crowd situation analysis, vehicle situation analysis, and perimeter protection. It is widely applied in various scenes such as squares, airports, safe city, and traffic.

Functions

Panoramic Splicing

With advanced splicing algorithm, Dahua Panoramic Splicing technology deletes overlapped area and splices multiple images to be a complete panorama. The field of view of the spliced image can be up to 360°, which largely improves surveillance efficiency and user experience. Generally, after splicing, the field of view of four-sensor camera can be 180°, and the field of view of eight-sensor camera can be 360°.

Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

Vehicle Density

With deep learning algorithm, Dahua Vehicle Density technology analyses the vehicle situation in the image, such as vehicle number in selected area. You can set threshold, and when the number is larger or smaller than the threshold, it triggers linkage.

- Four 4-MP 1/1.8" CMOS image sensors, low luminance, and high definition image.
- Outputs max. 16 MP (5520 × 2700)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Three streams for HD video display.
- Built-in IR LED, and the max. illumination distance is 30 m.
- 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Alarm: 2 in, 2 out; audio: 1 in, 1 out; RS-485; BNC; supports max. 256 G Micro SD card.
- 12 VDC/24 VAC/PoE power supply, easy for installation.
- IP67 and IK10 protection.

16Mp	Panoramic Splicing	Vehicle Density	IP67&IK10	Perimeter Protection	Crowd Density	EPTZ

Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

Perimeter Protection

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EPTZ

With advanced target detection and tracking algorithms, Dahua EPTZ technology can simultaneously zoom in and track multiple humans and vehicles that trigger alarms. It provides rich details and a panoramic view at the same time.

Crowd Density

With deep learning algorithm, Dahua Crowd Density technology can detect the crowd density on the image, and display it on heat map; it can detect people quantity and density in selected area and set threshold. When the number or density is larger or smaller than the threshold, it triggers linkage.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	5520 (H) × 2700 (V)
ROM	8 GB
RAM	4 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.001 lux@F1.6 (Color, 30 IRE) 0.0001 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	30 m (98.43 ft) (IR LED)
Illuminator On/Off Control	Auto; Manual
Illuminator Number	8 (IR LED)
Pan/Tilt/Rotation Range	Tilt: 0°–90° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal
Lens Mount	M16
Focal Length	2.8 mm
Max. Aperture	F1.6
Field of View	H: 180°; V: 100°
Iris Control	Fixed
Close Focus Distance	1.3 m (4.27 ft)

DORI Distance	Detect	Observe	Recognize	Identify
	58.9 m (193.24 ft)	23.6 m (77.43 ft)	11.8 m (38.71 ft)	5.9 m (19.37 ft)

Intelligence

EPTZ	Yes
IVS (Perimeter Protection)	Tripwire; Intrusion
Vehicle Density	Vehicle density; parking upper limit; vehicle congestion alarm
Crowd Distribution Map	Crowd map, global people counting; people counting in area
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos.

Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream)
Smart Codec	Smart H.265+; Smart H.264+
Video Frame Rate	Main Stream: 5520 × 2700@(1-25/30 fps) Sub Stream: 1280 × 620@(1-25/30 fps) Third Stream: 1920 × 940@(1-25/30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.

Stream Capability	3 streams
Resolution	5520 × 2700; 4600 × 2252; 3840 × 1880; 2880 × 1408; 1280 × 620; 1024 × 496; 1920 × 940; 1366 × 668
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 96 kbps–16384 kbps H.265: 38 kbps–12544 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	DWDR
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto; Manual
Noise Reduction	3D NR
Region of Interest (RoI)	Yes (4 areas)
Defog	Yes
Privacy Masking	8 areas

Audio

Audio Compression	G.711a; G.711Mu; G.726: G.723; PCM

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; scene changing; audio detection; voltage detection; external alarm; security exception; crowd distribution map; tripwire; intrusion; traffic congestion; parking upper limit

Network

Network Port	RJ-45 (10/100/1000 Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP;TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP
Interoperability	ONVIF (Profile S/Profile G/Profile T); CGI
User/Host	20
Storage	FTP; SFTP; Micro SD card (support max. 256 GB); NAS
Browser	With plug-in: IE: IE 9 and later Chrome: Chrome 86 and later Firefox: Firefox 86 and later Without plug-in: Edge Chrome: Chrome 86 and later Firefox: Firefox 86 and later
Management Software	Smart PSS; DSS; DMSS
Cyber Security	Configuration encryption;trusted execution; Digest; security logs; WSSE; account lockout; syslog; video encryption; 802.1x; IP/MAC filtering; HTTPS; trusted upgrade; trusted boot; firmware encryption; generation and importing of X.509 certification

Certification

Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU; FCC: 47 CFR FCC Part 15, Subpart B; UL/CUL: UL62368-1 & CAN/CSA C22.2 No. 62368-1-14

Port

RS-485	1 (baud rate range:1200 bps–115200 bps)
Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)
Analog Output	1 channel (CVBS output:BNC)
Alarm Input	2 channels in: 5 mA 3–5 VDC
Alarm Output	2 channels out: 1,000 mA 30 VDC/500 mA 50 VAC

Power

Power Supply	12 VDC/24 VAC/PoE+ (802.3at)
Power Consumption	Basic: 8.2 W (12 VDC); 9.7 W (24 VAC); 9.7 W (PoE) Max. (WDR + IR intensity + intelligence on+ max. stream): 21.5 W (12 VDC); 24.2 W (24 VAC); 24.2 W (PoE)

Environment

Operating Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Storage Temperature	−40°C to +60°C (−40°F to +140°F)
Operating Humidity	≤95%
Protection	IP67; IK10

Structure

Casing Material	Metal + plastic
Product Dimensions	298.3 mm × 172.5 mm × 120.5 mm (11.74" × 6.79" × 4.74") (L × W × H)
Net Weight	3.05 kg (6.72 lb)
Gross Weight	3.79 kg (8.36 lb)

Ordering Information

Type	Model	Description
16MP Camera	DH-IPC-PFW81642-A180	4 × 4 MP Multi-Sensor Panoramic Bullet Wizmind Network Camera
	IPC-PFW81642-A180	4 × 4 MP Multi-Sensor Panoramic Bullet Wizmind Network Camera
Accessories (Optional)	PFA120-SG	Junction Box
	PFA150-SG	Pole Mount Bracket
	PFM320D	12 VDC 2 A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card

Accessories

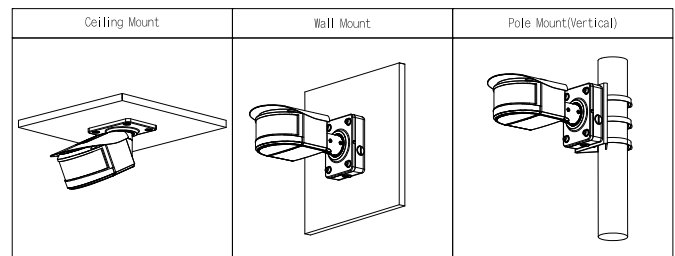Optional:

PFA120-SG Junction Box	PFA150-SG Pole Mount Bracket	PFM320D 12 VDC 2 A Power Adapter
PFM900-E Integrated Mount Tester	TF-P100 MicroSD Memory Card	

Ceiling Mount	Wall Mount	Pole Mount(Vertical)

Dimensions (mm[inch])

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

119.0 [4.69]
84.0 [3.31]
115.0 [4.53]
160.0 [6.3]
4-Ø9.0 [Ø0.35]