DH-IPC-HDBW5541E-ZE

5MP IR Vari-focal Vandal-proof Dome WizMind Network Camera

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

Driven by deep learning algorithms, Dahua WizMind S Series network camera offers a variety of intelligent functions that greatly improve the accuracy of audio and video analysis. It supports video metadata, smart sound detection, face detection, perimeter protection, people counting and more. The camera also adopts advanced image processing AI-Powered Image technology and has the Deeplight night vision effect. The camera is dustproof, waterproof and vandal-proof, and is certified as IP67 and IK10 (the type of protection varies depending on the model).

Functions

AI-Powered Image

With AI ISP technology, the camera is able to easily adapt to scenes, producing high quality images that reveal the fine details of targets.

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.

Face Detection

Dahua Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

Smart Sound Detection

With deep learning algorithms, Dahua Smart Sound Detection technology can detect and identify the sound of screams, glass breaking, and more.

**** The parameters and datasheets below can only be applied to 5541-Z-S3 series.***

- 5-MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 5MP (2960×1668) @25/30 fps.
- Built-in IR LED, and the max. illumination distance is 40 m.
- ROI, SVC, SMART H.264+/H.265+, AI H.264/H.265, encoding after filter, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- With deep learning algorithm, it supports: video metadata, smart sound detection, IVS, face detection, smart object detection, and people counting, etc.
- Alarm: 2 in, 1 out; audio: 1 in, 1 out; supports max. 512 GB Micro SD card, built-in MIC.
- 24V AC/12 VDC/PoE power supply; ePoE.
- IP67 and IK10 protection.
- SMD 3.0.

People Counting

With deep learning algorithm, Dahua People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs reports to meet your requirements.

Video Metadata

With deep learning algorithm, Dahua Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

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.

Protection (IP67, IK10, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.
IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).
Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera

Image Sensor	1/2.7" CMOS
Max. Resolution	2960 (H) × 1668 (V)
ROM	4 GB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0009 lux@F1.5 (Color, 30 IRE) 0.0005 lux@F1.5 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	40 m (131.23 ft) (IR)
Illuminator On/Off Control	Auto;Zoomprio; Manual
Illuminator Number	3 (IR LED)
Angle Adjustment	Pan: 0°–355° Tilt: 0°–65° Rotation: 0°–355°

Lens

Lens Type	Motorized vari-focal
Lens Mount	ϕ14
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Field of View	H: 114°–32°; V: 58°–17°; D: 138°–36°
Iris Control	Auto
Close Focus Distance	0.8 m (2.62 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	64.0 m (209.97 ft)	25.6 m (83.99 ft)	12.8 m (41.99 ft)	6.4 m (20.99 ft)
	T	210.0 m (688.98 ft)	84.0 m (275.89 ft)	42.0 m (137.80 ft)	21.0 m (68.90 ft)

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection, people gathering, and parking detection
Smart Object Detection	Smart abandoned object; smart missing object
SMD 3.0	Less false alarm, longer detection distance
AI SSA	Yes
Face Detection	Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting.
People Counting	Tripwire people counting, generating and exporting report (day/week/month/year); people counting in area and queue management; generating and exporting report (day/week/month); 4 rules can be set for tripwire, people counting in area and queue management.
Heat Map	Yes
Video Metadata	Motor vehicle, non-motor vehicle, face, human body detection; track; snapshot; snapshot optimization; optimal face snapshot upload. Motor vehicle attributes: vehicle type, vehicle color, vehicle logo and other attributes : seatbelt, smoking, calling. Non-motor vehicle attributes: type, color, number of people, top type and color, hat. Human body attributes: gender, top/bottom type and color, bag, hat and umbrella. Face attributes: gender, age, expressions, glasses, face mask and beard.
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos
Smart Sound Detection	Yes

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+
AI Coding	AI H.265; AI H.264
Video Frame Rate	Main stream: 2960 × 1668@(1–25/30 fps) Sub stream: D1@(1–25/30 fps) Third stream: 1080p@(1–25/30 fps) Fourth stream: 720p@(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	4 streams
Resolution	5M (2960 × 1668); 5M (2880 × 1620); 4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–16384 kbps; H.265: 12 kbps–11776 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
Scene Self-adaptation (SSA)	Yes
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Image Stabilization	Electronic Image Stabilization (EIS)

Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 4M (2688 ×1520) resolution and lower)
Mirror	Yes
Privacy Masking	8 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711a; G.711Mu; PCM; G.726; G.723

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; scene changing; audio detection; external alarm; face detection; video metadata; SMD; people counting in area; stay detection; people counting; people number error detection; queue people number alarm; queue time alarm; security exception; defocus detection

Network

Network Port	RJ-45 (10/100 Enhancement 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; P2P
Interoperability	ONVIF (Profile S/Profile G/Profile T); CGI
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 512 GB); NAS
Browser	IE: IE 9 and later Chrome: Chrome 102 and later Firefox:Firefox 88 and later
Management Software	SmartPSS Lite; DSS; DMSS
Mobile Client	iOS; Android
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

Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)
Alarm Input	2 channels in: wet contact, 5mA 3V–5V DC
Alarm Output	1 channel out: wet contact, 300mA 12V DC

Power

Power Supply	12 VDC/24 VAC/PoE (802.3af)/ePoE
Power Consumption	Basic: 3.9 W (12 VDC); 4.6 W (24 VAC); 5.6 W (PoE) Max. (H.265+ WDR+ Intelligence on+IR on): 10 W (12 VDC); 11.7 W (24 VAC); 12.1 W (PoE)

Environment

Operating Temperature	–30 °C to +60 °C (–22 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	10%–95% (RH), non-condensing
Protection	IP67; IK10

Structure

Casing Material	Metal
Product Dimensions	Φ159.1 mm × 118.1 mm (6.26" × Φ4.65")
Net Weight	0.91 kg (2.01 lb)
Gross Weight	1.22 kg (2.69 lb)

Ordering Information

Type	Model	Description
5MP Camera	DH-IPC-HDBW5541E-ZE	5MP IR Vari-focal Vandal-proof Dome WizMind Network Camera
	IPC-HDBW5541E-ZE	5MP IR Vari-focal Vandal-proof Dome WizMind Network Camera
Accessories (Optional)	PFB211W	Wall Mount Bracket
	PFA138	Junction Box
	PFB5201C	In-ceiling Mount Bracket
	PFB300C	Ceiling Mount Bracket
	PFA156	Pole Mount Bracket
	PFA101	Mount Adapter
	PFM321D	12 VDC 1 A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card

Accessories

Optional:

PFB211W
Wall Mount Bracket

PFA138
Junction Box

PFB5201C
In-ceiling Mount Bracket

PFB300C
Ceiling Mount Bracket

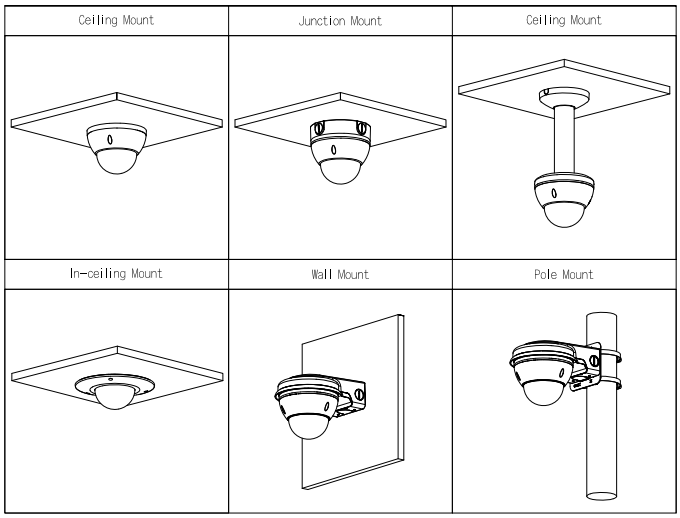
PFA156
Pole Mount Bracket

PFA101
Mount Adapter

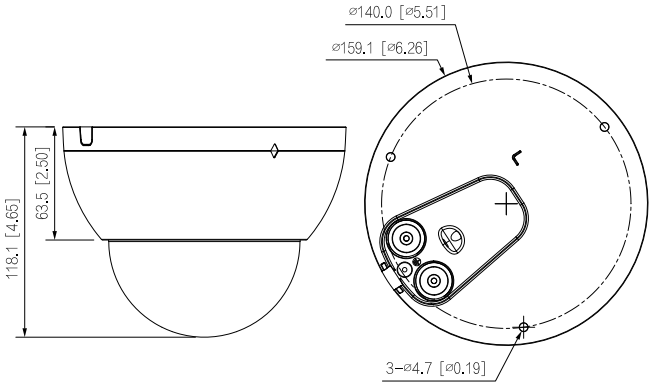
PFM321D
12 VDC 1 A Power Adapter

PFM900-E
Integrated Mount Tester

TF-P100
MicroSD Memory Card



Dimensions (mm[inch])



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