

DH-IPC-HFW5459T1-ASE-PV-PRO-LE

4MP WizColor Fixed-focal Bullet 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

With its deep learning algorithms, the WizMind 5 Series camera offers advanced analytical capabilities for both audio and video. It integrates intelligent features such as video metadata, AcuPick, face detection, perimeter protection, and people counting. Powered by the Xinghan Large-Scale AI Models-Vision, the camera outstandingly delivers on its object detection, recognition, and scene adaptation functions. Equipped with AI-ISP imaging technology, it offers excellent night vision performance. The series is designed for durability, being dust-proof, waterproof, and vandal-proof, in compliance with IP67 and IK10 standards, though support for these certifications may vary across models.

Functions

Xinghan Large-Scale AI Models-Vision

Xinghan Large-Scale AI Models-Vision seamlessly expands the storage and operational capacity of algorithmic models through the powerful integration of edge AI model algorithms and NPU computing power. Engineered with a lightweight transformer architecture and enhanced by model distillation and quantization techniques, it optimizes the computing power consumption of ViT operators. This enables the system to collaborate on multiple tasks simultaneously through joint inference between small and large models optimized for edge devices.

- 4-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max 4 MP (2688 × 1520)@25/30 fps.
- Built-in multi-core light, the max IR distance is 80 m and the max warm light distance is 60 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.
- Features AI Rule Assist, which automatically creates highly accurate IVS rules based on the Xinghan Vision Models.
- With deep learning algorithm, it supports: AcuPick, IVS, face detection, people counting, etc.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; RS-485; supports max 1 TB Micro SD card; built-in dual Mic; 1-ch speaker; supports two-way talk.
- 12 VDC/PoE power supply; ePoE; 12 VDC power output, and max current 165 mA, easy for installation.
- IP67 and IK10 protection.



WizColor Technology

Dahua WizColor Technology seamlessly combines with the powerful AI-ISP, large pixel size sensor and large aperture in cameras. This unique integration enables cameras to effortlessly capture high-quality images with vibrant colors during nighttime scenarios, ensuring fine details are preserved and minimizing motion blur. Unlike traditional self-illuminating cameras, Dahua WizColor Technology maximizes the utilization of weak light sources, such as moonlight and city lights reflected in the sky, delivering captivating full-color images of the entire scene. It also ensures that monitoring distances are not compromised at night due to limited illumination ranges, facilitating full-color image capture even over long distances.

AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

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		1/1.8" CMOS			
Max. Resolution		2688 (H) × 1520 (V)			
Scanning System		Progressive			
Electronic Shutter Speed		Auto/Manual 1/3 s–1/100,000 s			
Min. Illumination		0.0001 lux@F1.0 (Color, 30 IRE) 0.0001 lux@F1.0 (B/W, 30 IRE) 0 lux (Illuminator on)			
S/N Ratio		>56 dB			
Illumination Distance		2.8 mm: Up to 80 m (262.47 ft) (IR) Up to 60 m (196.85 ft) (Warm light) 3.6 mm: Up to 80 m (262.47 ft) (IR) Up to 60 m (196.85 ft) (Warm light)			
Illuminator On/Off Control		Auto;Manual			
Illuminator Number		4 (Multi-core (IR + warm) light)			
Angle Adjustment		Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°			
Lens					
Lens Type		Fixed-focal			
Lens Mount		M16			
Focal Length		2.8 mm; 3.6 mm			
Max. Aperture		F1.0			
Field of View		2.8 mm: H: 111°; V: 60°; D: 135° 3.6 mm: H: 95°; V: 51°; D: 114°			
Iris Control		Fixed			
Close Focus Distance		2.8 mm: 2 m (6.56 ft) 3.6 mm: 3.5 m (11.48 ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	56.6 m (185.70 ft)	22.6 m (74.75 ft)	11.3 m (37.07 ft)	5.7 m (18.70 ft)
	3.6 mm	69.0 m (226.38 ft)	27.6 m (90.55 ft)	13.8 m (45.28 ft)	6.9 m (22.64 ft)
	*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.				

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of human, vehicle, animal and other); loitering detection, people gathering, parking detection, stay detection. Offers Perimeter Protection Large-Scale AI Models to extend the target detection range and reduce the rate of false alarm.
SMD	SMD 4.0
AcuPick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people, animal and motor vehicles, and search through live and recorded videos to quickly locate targets.
AI SSA	Yes
Face Detection	Face detection; 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.
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)
AI Coding	AI H.265; AI H.264 *Includes smart codec technology, Smart H.265+ and Smart H.264+.
Video Frame Rate	Main stream: 2688 × 1520@ (1–25/30 fps) /1920 × 1080@ (1–50/60 fps) Sub stream: 704 × 576@ (1–25 fps)/704 × 480@ (1–30 fps) Third stream: 1920 × 1080@ (1–25/30 fps) Fourth stream: 1280 × 720@ (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.
Streaming Capability	4 streams
Resolution	4M (2688 × 1520/2560 × 1440); 3M (2048 × 1536/2304 × 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	VBR;CBR
Video Bit Rate	H.264: 3 kbps–16384 kbps H.265: 3 kbps–16384 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	140 dB
Scene Self-adaptation (SSA)	Yes

White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto/Manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Smart Illumination	Yes
Smart Dual Light	Yes
Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 4M (2688 × 1520) resolution and lower)
Mirror	Yes
Privacy Masking	4 mosaics or 8 color blocks
LDC	Yes

Audio

Built-in MIC	Yes, built-in dual Mic
Built-in Speaker	Yes, built-in speaker
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; loitering detection; abandoned object; missing object; people gathering; parking detection; scene changing; audio detection; voltage 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
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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; Auto Registration
Interoperability	ONVIF (Profile S & Profile G & Profile T & Profile M); CGI
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 1 TB); NAS
Browser	IE: IE 11 and later Chrome: Chrome 102 and later Firefox: Firefox 88 and later
Management Software	DSS; DMSS; DoLink Care
Mobile Client	iOS;Android
Security	Digest;WSSE;Account logout;Security logs;IP/MAC filtering;Generation and importing of X.509 certification;syslog;HTTPS;802.1x;Trusted boot;Trusted execution;Trusted upgrade;Session security;Security warning;AES 256;SSL/TLS1.3;TPM 2.0 (optional)

Function

Light Warning	Warm light warning Flash/Solid on duration: 5 s–30 s Flash frequency: high, medium, low
Sound Warning	Offers 11 sound alarms and supports importing 10 custom sound alarms. Sound: 0–100 Play times can be set from 1 to 10.

Certification

Certifications	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU;
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Port

RS-485	1 (baud rate range: 1200 bps–115200 bps)
Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)
Alarm Input	1 channel in: supports wet contact connection (max load 5 mA 3–5 VDC); supports dry contact connection
Alarm Output	1 channel out: dry contact, max load 1,000 mA 30 VDC/500 mA 50 VAC
Power Output	12 VDC power output, max. current 165 mA, peak current 700 mA

Power

Power Supply	12 VDC (±30%); PoE+ (802.3at); ePoE
Dual Power Backup	When the power adapter and PoE provide power at the same time, disconnect one of them. The device will continue to work, but will not restart.
Power Consumption	Basic: 4.1 W (12 VDC); 4.8 W (PoE) Max. (IR on + WDR + intelligence on + siren and light active deterrence): 21.6 W (12 VDC); 24.2 W (PoE)
ePoE	Yes

Environment

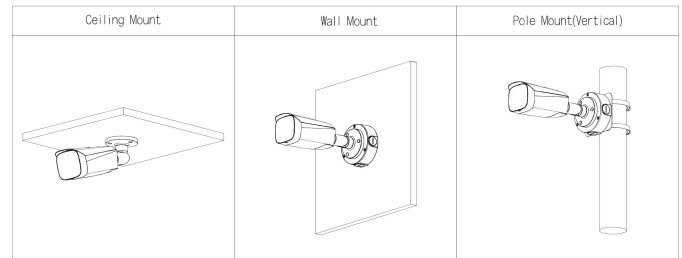
Operating Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Operating Humidity	≤95% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	≤95% (RH), non-condensing
Protection	IP67; IK10
Anti-corrosion Level	Basic Protection *The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection.

Structure

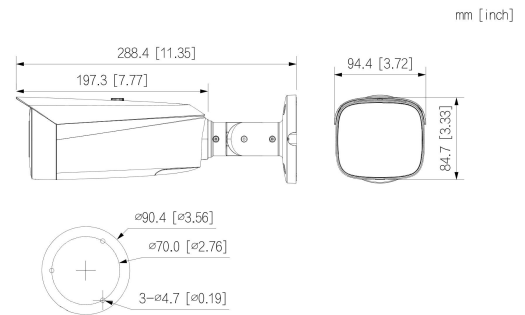
Casing Material	Metal + plastic
Product Dimensions	288.4 mm × 94.4 mm × 84.7 mm (11.35" × 3.72" × 3.33") (L × W × H)
Net Weight	1.09 kg (2.40 lb)
Gross Weight	1.39 kg (3.06 lb)

Ordering Information

Type	Model	Description
IP CAMERA	DH-IPC-HFW5459T1-ASE-PV-PRO-LE	4MP WizColor Fixed-focal Bullet WizMind Network Camera
Accessories (Optional)	DH-PFA130-E	Water-proof Junction Box
	DH-PFA151	Corner Mount Bracket
	G3416GW	G3/4" Water Joint
	DH-PFA152-E	Pole Mount Bracket
	DH-PFA135	Junction Box
	DH-PFM320-020EN	DC12V 2A Power Adapter
	DH-PFM320D-EN	DC12V 2A Power Adapter
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/1TB	MicroSD Card



Dimensions (mm[inch])



Accessories

Optional:



DH-PFA130-E
Water-proof Junction Box



DH-PFA151
Corner Mount Bracket



G3416GW
G3/4" Water Joint



DH-PFA152-E
Pole Mount Bracket



DH-PFA135
Junction Box



DH-PFM320-020EN
DC12V 2A Power Adapter



DH-PFM320D-EN
DC12V 2A Power Adapter



PFM900-E
Integrated Mount Tester



DHI-TF-P100/1TB
MicroSD Card