

DH-IPC-HDBW5459R1-ZE-PV-PRO

4MP WizColor Vari-focal Dome WizMind Network Camera



 Xinghan

 ACUPICK

 ePoE

 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

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.

Self-Learning

Empowered by deep learning technology, the device recognizes different types of targets and their statuses through learning and analyzing target features to detect targets and filter out false alarms.

- 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 60 m and the max. warm light distance is 50 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, video metadata, IVS, face detection, and 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; support two-way talk.
- 12 VDC/PoE power supply; ePoE; 12 VDC power output, and max. current 165mA, 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) x 1520 (V)
ROM	4 GB
RAM	2 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s~1/100,000 s
Min. Illumination	0.0007 lux@F1.2 (Color, 30 IRE) 0.0003 lux@F1.2 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 60 m (196.85 ft) (IR) Up to 50 m (164.04 ft) (Warm light)
Illuminator On/Off Control	Auto;Manual;Zoom prio
Illuminator Number	4 (Multi-core (IR + warm) light)
Angle Adjustment	Pan: 0°~355° Tilt: 0°~80° Rotation: 0°~355°

Lens

Lens Type	Motorized vari-focal				
Lens Mount	φ14				
Focal Length	2.7 mm~12 mm				
Max. Aperture	F1.2				
Field of View	H: 114°~48°; V: 59°~27°; D: 143°~56°				
Iris Control	Auto				
Iris Control Type	P-Iris				
Close Focus Distance	0.2 m (0.67 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	75.2 m (246.72 ft)	30.1 m (98.75 ft)	15 m (49.21 ft)	7.5 m (24.61 ft)
	T	160.2 m (525.59 ft)	64.1 m (210.3 ft)	32.0 m (104.99 ft)	16.0 m (52.49 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.

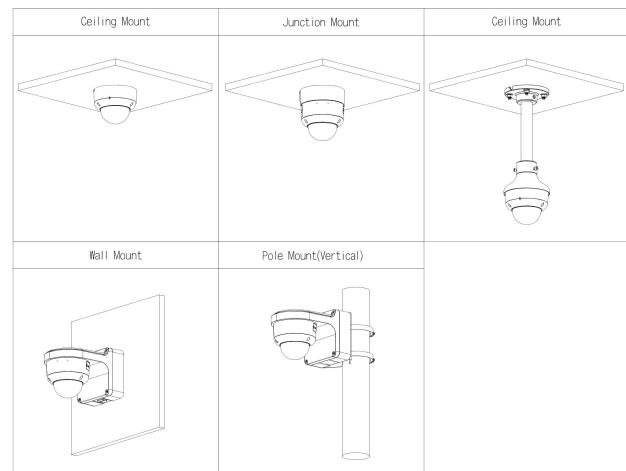
Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle, animal and human); 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. Supports self-learning, it filters out false alarms.
SMD	SMD 4.0
AcuPick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people,

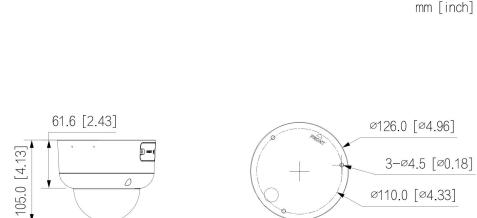
AcuPick	animal and motor vehicles, and search through live and recorded videos to quickly locate targets.
Face Detection	Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; 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.
Heat Map	Yes
Video Metadata	Motor vehicle, non-motor vehicle, face, and human body detection; snapshot; snapshot optimization; optimal face snapshot upload. Extraction of motor vehicle and non-motor vehicle attributes: extracts 6 attributes for motor vehicle and 6 attributes for non-motor vehicle. Extraction of face and human body attributes: extracts 6 attributes for face and 8 attributes for human body.
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 *include smart codec technology, Smart H.265+ and Smart H.264+
Video Frame Rate	Main stream: 2688 x 1520@(1~25/30 fps) Sub stream: 704 x 576@(1~25 fps)/704 x 480@(1~30 fps) Third stream: 1920 x 1080@(1~25/30 fps) Fourth stream: 1280 x 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 x 1520/2560 x 1440); 3M (2048 x 1536/2304 x 1296); 1080p (1920 x 1080); 1.3M (1280 x 960); 720p (1280 x 720); D1 (704 x 576/704 x 480); VGA (640 x 480); CIF (352 x 288/352 x 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	Light Warning	Flash frequency: high, medium, low
Motion Detection	OFF/ON (4 areas, rectangular)	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.
Region of Interest (RoI)	Yes (4 areas)	Certification	CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU
Image Stabilization	Electronic Image Stabilization (EIS)	Port	
Smart Illumination	Yes	RS-485	1 (baud rate range: 1200 bps–115200 bps)
Smart Dual Light	Yes	Audio Input	1 channel (RCA port)
Defog	Yes	Audio Output	1 channel (RCA port)
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 4M (2688 × 1520) resolution and lower)	Alarm Input	1 channel in: wet contact, 5 mA 3–5 VDC
Mirror	Yes	Alarm Output	1 channel out: dry contact, 1,000 mA 30 VDC/500 mA 50 VAC
Privacy Masking	4 mosaics or 8 color blocks	Power Output	12 VDC power output, max. current 165 mA, peak current 700 mA
LDC	Yes	Power	
Audio		Power Supply	12 VDC (±30%); PoE+ (802.3at); ePoE
Built-in MIC	Yes, built-in dual Mic	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.
Built-in Speaker	Yes, built-in speaker	Power Consumption	Basic: 4.1 W (12 VDC); 4.8 W (PoE) Max.: 21.7 W (12 VDC); 23.9 W (PoE) (IR on + WDR + intelligence on + siren and light active deterrence)
Audio Compression	G.711a; G.711Mu; PCM; G.726; G.723	ePoE	Yes
Alarm		Environment	
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; 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; defocus detection	Operating Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Network		Operating Humidity	≤95% (RH), non-condensing
Network Port	RJ-45 (10/100 Enhancement Base-T)	Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
SDK and API	Yes	Storage Humidity	≤95% (RH), non-condensing
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	Protection	IP67; IK10
Interoperability	ONVIF (Profile S & Profile G & Profile T & Profile M); CGI	Structure	
User/Host	20 (Total bandwidth: 80 M)	Casing Material	Metal
Storage	FTP; SFTP; Micro SD card (support max. 1 TB); NAS	Product Dimensions	105.0 mm × Φ126.0 mm (4.13" × Φ4.96")
Browser	IE: IE 11 and later; Chrome: Chrome 102 and later; Firefox: Firefox 88 and later	Net Weight	0.73 kg (1.61 lb)
Management Software	DSS; DMSS; DoLynk Care	Gross Weight	0.94 kg (2.07 lb)
Mobile Client	iOS/Android	Ordering Information	
Security	Digest; WSSE; Account lockout; 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	Type	Model
Function		IP CAMERA	DH-IPC-HDBW5459R1-ZE-PV-PRO
Light Warning	Warm light warning Flash/Solid on duration: 5 s–30 s	Description	

Type	Model	Description
Accessories (Optional)	DH-PFB220C	Ceiling Mount Bracket
	DH-PFA109	Mount Adapter
	DH-PFB305W	Wall Mount Bracket
	DH-PFA151	Corner Mount Bracket
	DH-PFA150	Pole Mount Bracket
	DH-PFA156	Pole Mount Bracket
	DH-PFB206W	Wall Mount Bracket
	DH-PFA197R	Junction Box
	DH-PFB5204C	In-ceiling Mount Bracket
	DH-PFM320D-EN	DC12V2A power adapter
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/1TB	MicroSD Card



Dimensions (mm[inch])



Accessories

Optional:

DH-PFA109
Mount AdapterDH-PFA150
Pole Mount BracketDH-PFA151
Corner Mount BracketDH-PFA156
Pole Mount BracketDH-PFA197R
Junction BoxDH-PFB206W
Wall Mount BracketDH-PFB220C
Ceiling Mount BracketDH-PFB305W
Wall Mount BracketDH-PFB5204C
In-ceiling Mount BracketDH-PFM320D-EN
DC12V2A power adapterDHI-TF-P100/1TB
MicroSD CardPFM900-E
Integrated Mount Tester