DH-IPC-HDBW3649R1-ZAS-PV-PRO-ATC

6MP WizColor TiOC PRO Vari-focal Anti-corrosion Dome WizSense Network Camera

Functions

Enhanced Anti-Corrosion Aluminum Alloy

The camera is engineered with an innovative alloy structure from which impurities have been removed. Its electrochemical corrosion resistance is significantly higher than that of conventional aluminum alloys. And its dual-reinforced surface forms a dense protective barrier. Certified to C5-H and NEMA 4X standards, it is ideal for high-humidity and high-salinity environments such as ports, islands, cross sea bridges, coastal buildings, or areas prone to sulfidation, nitridation, or acid rain.

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.

- Enhanced anti-corrosion aluminum alloy enclosure safeguards camera in corrosive environments, ensuring great reliability and an extended service life.
- 6-MP 1/1.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max 6 MP (3288 × 1850)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in multi-core light, the max IR distance is 50 m and the max warm light distance is 50 m.
- ROI, SMART H.264+/H.265+, AI H.264/H.265, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human), stay detection, loitering detection, and face detection (full image).
- Abnormality detection: Motion detection, video tampering, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, invalid access, and voltage detection.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; max 512 GB Micro SD card; built-in dual Mic; 1-ch speaker; two-way talk.
- 12 VDC/PoE power supply.
- IP67 and IK10 protection.
- Sound and light alarm (red and blue lights).
- SMD 4.0.
- Supports AI SSA and one-tap arming and disarming.
- SMD area can be set in warm light areas that support triggering alarms.

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.

AI-ISP

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

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	3288 (H) × 1850 (V)
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0005 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 50 m (164.04 ft) (IR) Up to 50 m (164.04 ft) (Warm light)
Illuminator On/Off Control	Auto;Manual;Zoomprio
Illuminator Number	4 (Multi-core (IR + warm) light)
Angle Adjustment	Pan: 0° to 355° Tilt: 0° to 80° Rotation: 0° to 355°

Lens

Lens Type	Motorized vari-focal
Lens Mount	Φ16
Focal Length	2.7 mm–12 mm
Max. Aperture	F1.2
Field of View	H: 112°–48°; V: 58°–27°; D: 137°–55°
Iris Control	Fixed
Close Focus Distance	1.75 m (5.74 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	74.9 m (245.73 ft)	29.9 m (98.10 ft)	15.0 m (49.21 ft)	7.5 m (24.61 ft)
	T	159.5 m (523.29 ft)	63.8 m (209.32 ft)	31.9 m (104.66 ft)	15.9 m (52.17 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				

DORI Distance	distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human), stay detection, loitering 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	Adopt deep learning algorithms to adjust the parameters of the image to suit the conditions.
Face Detection (Full Image)	Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face exposure; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization duration setting

Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by sub stream)
AI Coding	AI H.264; AI H.265 *Includes SmartCodec Technology, Smart H.264+/ H.265+
Video Frame Rate	Main stream: 3288 × 1850@(1–25/30 fps) Sub stream: 1920 × 1080@(1–25/30 fps) Third stream: 1920 × 1080@(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	3 streams
Resolution	6M (3288 × 1850/3200 × 1800); 5M (2880 × 1620); 4M (2688 × 1520/2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	VBR;CBR;ABR
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	120 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)

Image Stabilization	Electronic Image Stabilization (EIS)
Smart Illumination	Yes
Smart Dual Light	Yes
Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)
Mirror	Yes
Privacy Masking	8 areas

Audio

Built-in MIC	Yes, built-in dual Mic
Built-in Speaker	Yes, built-in speaker
Audio Compression	PCM; G.711a; G.711Mu; G.726; G.723

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; invalid access; motion detection; video tampering; tripwire; intrusion; loitering detection; stay detection; face detection (full image); scene changing; audio detection; voltage detection; defocus detection; SMD; security exception

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; P2P; Bonjour; Auto Registration
Interoperability	ONVIF (Profile S & Profile G & Profile T & Profile M); CGI
User/Host	20 (Total bandwidth: 64 M)
Storage	FTP; SFTP; Micro SD card (support max 512 GB); NAS
Browser	IE; Chrome; Firefox
Management Software	SmartPSS Lite; DSS; DMSS; DoLynk Care
Mobile Client	iOS;Android
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

Function

Light Warning	Yes
Sound Warning	Yes

Certification

Certifications	CE-LVD: EN 62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU; NEMA 4X

Port

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

Power Supply	12 VDC (±30%); PoE+ (802.3at)
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: 4.4 W (12 VDC); 6.1 W (PoE); Max.: 12.4 W (12 VDC); 16.9 W (PoE) (H.265 + WDR + warm light + sound and light active deterrence + intelligence on)

Environment

Operating Temperature	–30 °C to +60 °C (–22 °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 protection: NEMA 4X
Anti-corrosion Level	Professional Protection *The products are fitted with premium-level anti-corrosion protection, making them ideal for use in sensitive environments such as chemical plants, docks, and coastlines. They perform reliably in areas up to 2 km (1.24 mi) from the coast, as well as in regions prone to acid rain exposure.

Structure

Casing Material	Casing: Metal (Enhanced Anti-Corrosion Aluminum Alloy)
Product Dimensions	105.0 mm × Φ126.0 mm (4.13" × Φ4.96")
Net Weight	0.75 kg (1.65 lb)
Gross Weight	0.99 kg (2.18 lb)

Ordering Information

Type	Model	Description
IP CAMERA	DH-IPC-HDBW3649R1-ZAS-PV-PRO-ATC	6MP WizColor TiOC PRO Vari-focal Anti-corrosion Dome WizSense Network Camera

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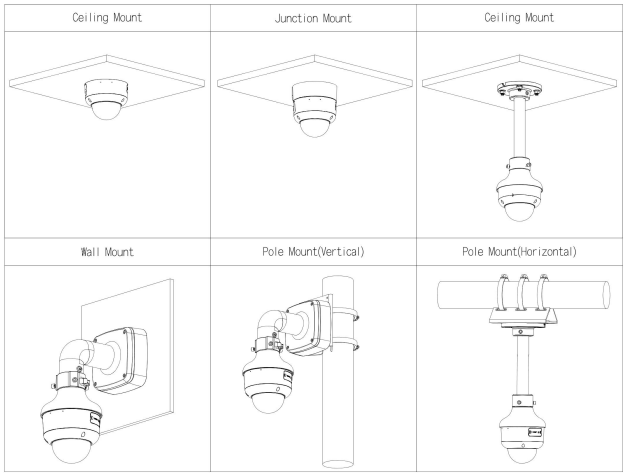
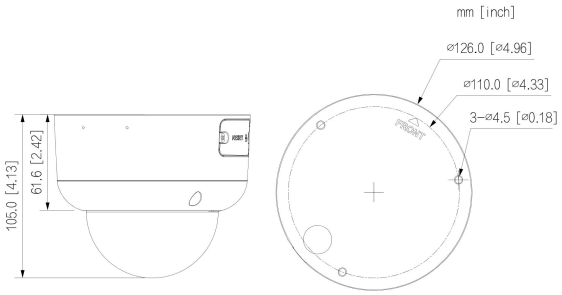
Type	Model	Description
Accessories (Optional)	DH-PFA109H	Anti-corrosion Mount Adapter
	DH-PFB220CH	Anti-corrosion Ceiling Mount Bracket
	DH-PFA5510H	Anti-corrosion Pole Mount Bracket
	DH-PFA114H	Anti-corrosion Mount Adapter
	DH-PFA156H	Anti-corrosion Pole Mount Bracket
	G3416GW	G3/4" Water Joint
	DH-PFB302SH	Anti-corrosion Wall Mount Bracket
	DH-PFA197RH	Anti-corrosion Junction Box
	DH-PFM320-020EN	Power Adapter
	DH-PFM320D-EN	DC12V2A power adapter
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/512GB	MicroSD Card



Dimensions (mm[inch])



Accessories

Optional:

DH-PFA109H
Anti-corrosion Mount Adapter

DH-PFB220CH
Anti-corrosion Ceiling Mount Bracket

DH-PFA5510H
Anti-corrosion Pole Mount Bracket

DH-PFA114H
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DH-PFA156H
Anti-corrosion Pole Mount Bracket

G3416GW
G3/4" Water Joint

DH-PFB302SH
Anti-corrosion Wall Mount Bracket

DH-PFA197RH
Anti-corrosion Junction Box

DH-PFM320-020EN
Power Adapter

DH-PFM320D-EN
DC12V2A power adapter

PFM900-E
Integrated Mount Tester

DHI-TF-P100/512GB
MicroSD Card

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