

DH-IPC-HFW3649T1-AS-PV-PRO

6MP WizColor TiOC PRO Fixed-focal Bullet WizSense Network Camera



WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

Series Overview

Dahua WizSense 3 Series Network Camera greatly saves on bandwidth and storage space through its AI Coding technology. Driven by its advanced deep learning algorithms, the camera supports intelligent functions such as perimeter protection, smart motion detection (SMD), Acupick, and AI SSA (AI Scene Self-adaptation), making it easy and convenient to use. Starlight technology and its large aperture lens also allow the camera to produce clear, vivid images even in poor lighting conditions.

Functions

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.

Siren and Light Active Deterrence

Dahua siren and light active deterrence network camera supports the light alarm and voice alarm when perimeter event occurs, to realize the deterrence and effective intervention. The camera is built in multiple voices for selection, and supports customized voice importing.

SMD 4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms. With an AI NVR, Quick Pick technology becomes available, allowing you to easily search for and pick out human and vehicle targets from SMD event videos, prioritizing the highest matches.

- 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 function support the classification and accurate detection of vehicle and human)
- Abnormality detection: Motion detection, privacy masking, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; supports max. 512 G Micro SD card; built-in dual MICs; 1-ch speaker; support two-way talk.
- 12 VDC/PoE power supply.
- IP67 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.



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.

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, 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.

Wide voltage: The camera allows $\pm 30\%$ (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification						AI SSA		Adopt deep learning algorithms to adjust the parameters of the image to suit the conditions.	
Camera						Video			
Image Sensor		1/1.8" CMOS				Video Compression		H.265; H.264; H.264H; H.264B; MJPEG (only supported by sub stream)	
Max. Resolution		3288(H) × 1850 (V)				Smart Codec		Smart H.265+; Smart H.264+	
ROM		256 MB				AI Coding		AI H.265 (Compression rate ≥25%) AI H.264 (Compression rate ≥25%)	
RAM		2 GB				Video Frame Rate		Main stream: 3288 × 1850@(1 fps–25/30 fps) Sub stream: 1920 × 1080@(1 fps–25/30 fps) Third stream: 1920 × 1080@(1 fps–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.	
Scanning System		Progressive				Stream Capability		3 streams	
Electronic Shutter Speed		Auto/Manual 1/3 s–1/100,000 s				Resolution		6M (3288 × 1850/ 3200 × 1800); 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)	
Min. Illumination		0.0005 Lux@F1.0 (Color, 30IRE) 0.0004 Lux@F1.0 (B/W, 30IRE) 0 lux (Illuminator on)				Bit Rate Control		VBR; CBR; ABR	
S/N Ratio		>56 dB				Video Bit Rate		H.264: 3 kbps–16384 kbps H.265: 3 kbps–16384 kbps	
Illumination Distance		Up to 50 m (164.04 ft) (IR) Up to 50 m (164.04 ft) (Warm light)				Day/Night		Auto(ICR)/Color/B/W	
Illuminator On/Off Control		Auto;Manual				BLC		Yes	
Illuminator Number		4 (Multi-core (IR + warm) light)				HLC		Yes	
Angle Adjustment		Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°				WDR		120 dB	
Lens						Scene Self-adaptation (SSA)		Yes	
Lens Type		Fixed-focal				White Balance		Auto; natural; street lamp; outdoor; manual; regional custom	
Lens Mount		M16				Gain Control		Auto/Manual	
Focal Length		2.8 mm;3.6 mm				Noise Reduction		3D NR	
Max. Aperture		F1.0				Motion Detection		OFF/ON (4 areas, rectangular)	
Field of View		2.8 mm: H: 109°; V: 59°; D: 131° 3.6 mm: H: 93°; V: 50°; D: 111°				Region of Interest (RoI)		Yes (4 areas)	
Iris Control		Fixed				Smart Illumination		Yes	
Close Focus Distance		2.8 mm: 3.2 m (10.50 ft) 3.6 mm: 4.4 m (14.44 ft)				Smart Dual Light		Yes	
DORI Distance	Lens	Detect	Observe	Recognize	Identify	Defog		Yes	
	2.8 mm	70.2 m (230.31 ft)	28.1 m (92.19 ft)	14.0 m (45.93 ft)	7.0 m (22.97 ft)	Image Rotation		0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)	
	3.6 mm	85.6 m (280.84 ft)	34.3 m (112.53 ft)	17.1 m (56.10 ft)	8.6 m (28.22 ft)	Mirror		Yes	
	*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.					Privacy Masking		8 areas	
Intelligence						LDC		Yes	
IVS (Perimeter Protection)		Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)				Audio			
SMD		SMD 4.0				Built-in MIC		Yes, built-in dual Mic	
Smart Search		Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos				Built-in Speaker		Yes, built-in speaker	
AcuPick		Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.				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; illegal access; motion detection; video tampering; tripwire; intrusion; scene changing; audio detection; voltage detection; external alarm; SMD; security exception
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Network

Network Port	RJ-45 (10/100 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; PPPoE; SNMP; P2P
Interoperability	ONVIF (Profile S; Profile G; Profile T); CGI
User/Host	20 (Total bandwidth: 64 M)
Storage	FTP;SFTP; Micro SD card (support max. 512 GB); NAS
Browser	IE: IE11 Chrome Firefox
Management Software	Smart PSS Lite; DSS; DMSS; DoLink Care
Mobile Client	iOS;Android
Cyber Security	Video encryption;Firmware encryption;Configuration encryption;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

Certification

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

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

Power

Power Supply	12 VDC/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: 4.3 W (12 VDC); 6.2 W (PoE) Max. (H.265+WDR+ warm light+siren and light active deterrence + intelligence on): 11.8 W (12 VDC); 15.1 W (PoE)

Environment

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

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	1.0 kg (2.20 lb)
Gross Weight	1.3 kg (2.87 lb)

Ordering Information

Type	Model	Description
6MP Camera	DH-IPC-HFW3649T1-AS-PV-PRO	6MP WizColor TiOC PRO Fixed-focal Bullet WizSense Network Camera
Accessories (Optional)	PFA135	Junction Box
	PFA130-E	Water-proof Junction Box
	PFA152-E	Pole Mount Bracket
	PFM320D-EN	12 VDC 2A Power Adapter
	PFM900-E	Integrated Mount Tester
	TF-P100	MicroSD Memory Card

Accessories

Optional:



PFA135
Junction Box



PFA130-E
Water-proof Junction Box



PFA152-E
Pole Mount Bracket



PFM320D-EN
12 VDC 2A Power Adapter



PFM900-E
Integrated
Mount Tester



TF-P100
Integrated
Mount Tester

Ceiling Mount	Wall Mount	Pole Mount (Vertical)

Dimensions (mm[inch])

