DH-IPC-HFW3649T1-ZAS-PV-PRO

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



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

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.

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.

- 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 60 m and the max. warm light distance is 60 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), stay detection, loitering detection, face detection (full image).
- 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.



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.

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, 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 ±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)
ROM	256 MB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0008 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 60 m (196.85 ft) (Warm light)
Illuminator On/Off Control	Auto;Manual;Zoomprio
Illuminator Number	4 (Multi-core (IR + warm) light)
Angle Adjustment	Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°

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	W: 1.75 m (5.74 ft) T: 5.21 m (17.09 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	150.5m (493.77 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 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.
Face Detection(Full Image)	Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting.
SMD	SMD 4.0
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos
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.
AI SSA	Adopt deep learning algorithms to adjust the parameters of the image to suit the conditions.

Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (only supported by 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: 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 multple streams, the values will be subjected to the total encoding capacity.
Stream 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 Max power consumption: 2 W; max sound level at 10 cm: 110 dB * Test results from laboratory
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; stay detection; loitering 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: IE11 Chrome Firefox
Management Software	Smart PSS 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

Certification

Certifications	CE-LVD: EN 62368-1; CE-EMC: Electromagnetc Compatbility Directve 2014/30/EU

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: dry contact, 1,000 mA 30 VDC/500 mA 50 VAC

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 W (12 VDC); 6.4 W (PoE) Max. (H.265 + WDR + warm light + siren and light active deterrence + intelligence on): 14.4 W (12 VDC); 18.2 W (PoE)

Environment

Operating Temperature	–30 °C to +60 °C (–22 °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	1.00 kg (2.20 lb)
Gross Weight	1.30 kg (2.87 lb)

Ordering Information

Type	Model	Description
6MP Camera	DH-IPC-HFW3649T1-ZAS-PV-PRO	6MP WizColor TiOC PRO Vari-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



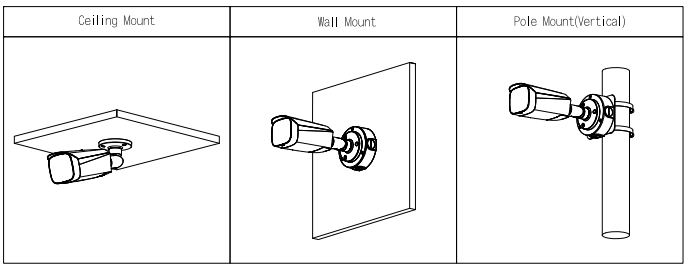
PFM320D-EN
12 VDC 2A Power Adapter



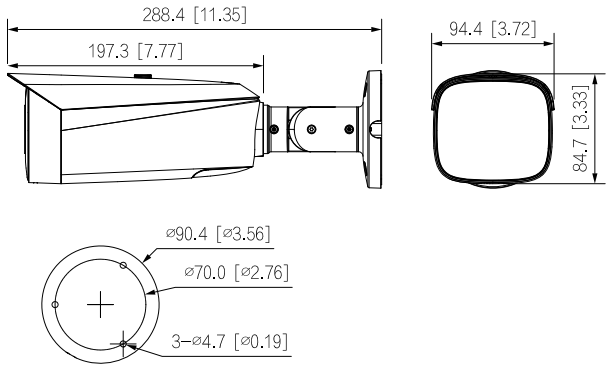
PFM900-E
Integrated
Mount Tester



TF-P100
Integrated
Mount Tester



Dimensions (mm[inch])



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