DH-IPC-HFW21249T-(A)S-IL

12MP Smart Dual Light Fixed-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

With advanced deep learning algorithm, Dahua WizSense 2 Series network camera supports intelligent functions, such as perimeter protection and smart motion detection. With starlight technology, this series camera provides a better image effect in the condition of low illuminance.

Functions

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.

Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

- 12-MP 1/2.5" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 12 MP (4480 × 2512)@15 fps, and supports 5 MP (3072 × 1728)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in multi-core light, the max. IR distance is 30 m and the max. warm light distance is 30 m.
- Rotation mode, DWDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human).
- Abnormality detection: Motion detection, video tampering, 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(Only - AS supports); audio: 1 in, 1 out(Only - AS supports); supports max. 256 G Micro SD card; built in Mic.
- 12 VDC/PoE power supply, easy for installation.
- IP67, IK10 (optional) protection.
- SMD Plus.



Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

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	1/2.5" CMOS
Max. Resolution	4480 (H) × 2512 (V)
ROM	128 MB
RAM	512 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.008 lux@F1.6 (Color, 30 IRE) 0.0008 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 30 m (98.43 ft) (Warm light) Up to 30 m (98.43 ft) (IR)
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	M12
Focal Length	2.8 mm; 3.6 mm
Max. Aperture	F1.6
Field of View	2.8 mm: H: 112°; V: 58°; D: 136° 3.6 mm: H: 95°; V: 53°; D: 109°
Iris Control	Fixed
Close Focus Distance	2.8 mm: 3.5 m (11.48 ft) 3.6 mm: 4 m (13.12 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	2.8 mm	98.9 m (324.48 ft)	39.6 m (129.92 ft)	19.8 m (64.96 ft)	9.9 m (32.48 ft)
	3.6 mm	105.4 m (345.80 ft)	42.2 m (138.45 ft)	21.1 m (69.23 ft)	10.5 m (34.45 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)
SMD	SMD Plus
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 sub stream)
Smart Codec	Smart H.265+; Smart H.264+
Video Frame Rate	Main stream: 4480 × 2512@(1–15 fps)/3072 × 1728@(1–25/30 fps) sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 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	2 streams
Resolution	12M (4480 × 2512); 8M (3840 × 2160); 6M (3072 × 2048); 5M (3072 × 1728/2880 × 1620); 4M (2688 × 1520); 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: 32 kbps–8192 kbps; H.265: 12 kbps–8192 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	DWDR
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
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)
Mirror	Yes
Privacy Masking	4 areas
LDC	Yes

Audio

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

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnecton; IP conflict; illegal access; moton detecton; video tampering; tripwire; intrusion; audio detecton; voltage detecton; SMD; security excepton; external alarm(Only - AS supports)

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; P2P; Bonjour; Auto Registration

Interoperability	ONVIF (Profile S & Profile G & Profile T); CGI
User/Host	20 (Total bandwidth: 48 M)
Storage	FTP; SFTP; Micro SD card (support max. 256 GB); NAS
Browser	IE; Chrome; Firefox
Management Software	Smart PSS Lite; DSS; DMSS
Mobile Client	Android;iOS
Security	Session security; WSSE; Account lockout; Trusted execution; Generation and importing of X.509 certification; 802.1x; Security logs; Digest; Security warning; IP/MAC filtering; HTTPS; Trusted upgrade; syslog; Trusted boot

Certification

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

Port

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

Power

Power Supply	12 VDC (±30%); PoE (802.3af)
Power Consumption	Basic: 3.1 W (12 VDC); 3.7 W (PoE); Max.: 10.1 W (12 VDC); 10.9 W (PoE) (H.265 + intelligence on + illuminator intensity)

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 (optional)

Structure

Casing Material	Metal
Product Dimensions	238.5 mm × 90.7 mm × 90.7 mm (9.39" × 3.57" × 3.57") (L × W × H)
Net Weight	-S: 0.62 kg (1.37 lb) -AS: 0.72 kg (1.59 lb)
Gross Weight	-S: 0.87 kg (1.92 lb) -AS: 0.97 kg (2.14 lb)

Ordering Information

Type	Model	Description
12MP Camera	DH-IPC-HFW21249T-S-IL	12MP Smart Dual Light Fixed-focal Bullet WizSense Network Camera
	DH-IPC-HFW21249T-AS-IL	12MP Smart Dual Light Fixed-focal Bullet WizSense Network Camera
Accessories (Optional)	PFA151	Corner Mount Bracket
	G3416GW	G3/4" Water Joint
	PFA130-E	Water-proof Junction Box
	PFA152-E	Pole Mount Bracket
	PFA135	Junction Box
	PFM321-EN	DC12V 1A power adapter
	PFM321D-EN	DC12V 1A power adapter
	PFM320D-EN	DC12V 2A power adapter
	PFM900-E	Integrated Mount Tester
	TF-P100/256GB	MicroSD Card
	TF-W100/256GB	MicroSD Card

Accessories

Optional:



PFA151
Corner Mount Bracket



G3416GW
G3/4" Water Joint



PFA130-E
Water-proof Junction Box



PFA152-E
Pole Mount Bracket



PFA135
Junction Box



PFM321-EN
DC12V1A Power Adapter



PFM321D-EN
DC12V1A Power Adapter



PFM320D-EN
12 VDC 2A Power Adapter



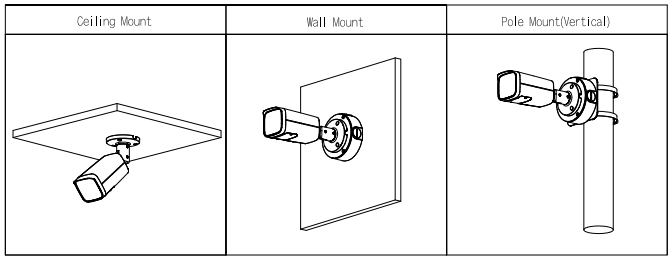
PFM900-E
Integrated
Mount Tester



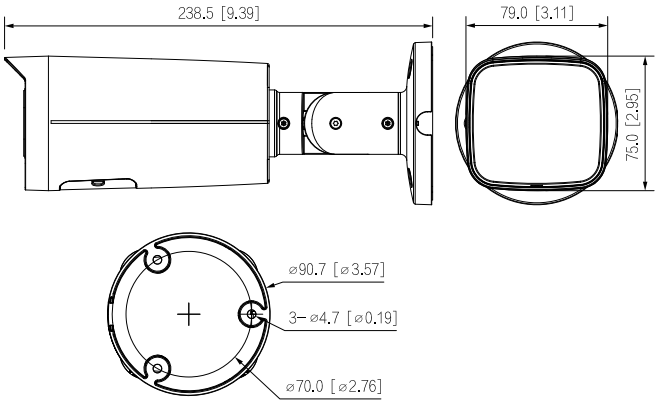
TF-P100/256GB
MicroSD Card



TF-W100/256GB
MicroSD Card



Dimensions (mm[inch])



Rev 002.000 © 2026 Dahua. All rights reserved. Design and specifications are subject to change without notice.
The images, specifications and information mentioned in the document are only for reference, and might differ from the actual product.