

DH-SD4F420DA-HNY

4MP 20x WizColor Network PTZ 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

WizColor series cameras utilize groundbreaking technology to capture full-color images at night, overcoming the limitations of darkness. With advanced AI noise reduction and smart recognition, these cameras deliver images with rich colors and clear targets even in low light conditions, and eliminate motion blur in dynamic scenes. Whether in urban or rural settings, this series provides uninterrupted 24-hour high-definition intelligent monitoring for diverse environments.

Functions

Smart Hybrid Zoom

By integrating multiple sensors with various fixed lenses, this camera delivers exceptional zoom performance. When the built-in AI algorithm detects a human, the lens automatically zooms in, tracks the target's movement, and effortlessly captures both close-up and distant scenes for precise monitoring.

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.

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

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

- 1/1.8" 4Megapixel CMOS.
- Warm light distance up to 80m.
- Face detection.
- Perimeter Protection.
- 20x hybrid zoom.
- Max. 25fps@4M.
- AI-ISP.
- SMD 3.0.
- IP66.
- Super AI coding.



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.

SMD 3.0

Empowered by deep-learning algorithms, Dahua SMD filters out motion detection alarms triggered by targets that are not a concern. It quickly recognizes humans and vehicles, triggering alarms when an intrusion occurs.

Super AI Coding

With advanced AI object detection and scene recognition technology, Super AI Coding integrates ROI, BAE, and ABR to achieve higher encoding efficiency than H.265 and H.264 while effectively reducing storage and transmission costs without compromising video quality.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	2688 (H) × 1520 (V)
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0005 lux@F1.0 (Color, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 80 m (262.47 ft) (Warm light)
Illuminator On/Off Control	Auto; Manual; Zoomprio
Illuminator Number	5 (Warm light)

Lens

Hybrid Zoom	20x (Optical+Digital)
Hybrid Zoom Focal Length	2.8mm-56mm (Optical+Digital)
Max. Aperture	F1.0–F1.1
Field of View	H: 7°–105°; V: 4°–57°; D: 8°–125°
Iris Control	Auto;Manual
Close Focus Distance	1 m (3.28 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	38.6 m (126.64 ft)	15.2 m (49.87 ft)	7.7 m (25.26 ft)	3.8 m (12.47 ft)
	T	441.3 m (1447.83 ft)	174.3 m (571.85 ft)	88.2 m (289.37 ft)	44.1 m (144.69 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

Intelligence Notes	Face detection and perimeter protection cannot be enabled simultaneously.
IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking. Offers Perimeter Protection Large-Scale AI Models to extend the target detection range and reduce the rate of false alarm.
SMD	SMD 3.0
Face Detection (Full Image)	Face detection; snapshot; face snapshot set as face, one-inch photo, or custom; snapshot strategies (real-time snapshot and quality priority).

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

Video Frame Rate	Main stream: 2560 × 1440@(1–25fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–25 fps) Third stream: 352 × 288@1 fps/352 × 240@1 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	4M (2688 × 1520/2560 × 1440); 3M (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–6144 kbps H.265: 12 kbps–6144 kbps
Day/Night	Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto/Manual
Noise Reduction	3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes (4 areas)
Image Stabilization	Electronic Image Stabilization (EIS)
Smart Illumination	Yes
Defog	Electronic
Image Rotation	0°/180°

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G.722.1
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Alarm

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; abandoned object; missing object; loitering detection; crowd gathering; parking detection; scene changing; abnormal audio; voltage detection; external alarm; face detection; 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; Bonjour; Auto Registration
Security	Session security;Digest; WSSE; Account lockout; Trusted execution; Generation and importing of X.509 certification; 802.1x; Security logs; Security warning; IP/MAC filtering; HTTPS; Trusted upgrade; syslog; Trusted boot
Interoperability	ONVIF (Profile G & Profile T & Profile M & Profile S); CGI
User/Host	20 (Total bandwidth: 48 M)

Storage	FTP; SFTP; Micro SD card (supports max 512 GB); NAS
Browser	IE; Google; Firefox
Management Software	NVR; DMSS
Mobile Client	Android;iOS

Function

Sound Warning	Offers 3 sound alarms and supports importing custom sound alarms. Sound: 0–100. Play times can be set from 1 to 10. (An external speaker is required.)
Heater (Window Heating)	Quickly removes water, ice, snow, and mist from the glass to keep images clear.

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless Tilt: –15° to 90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s–80°/s; Tilt: 0.1°/s–42°/s
Preset	300
Preset Speed	Pan: 72°/s; Tilt: 62.5°/s
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Tour;Preset; Pattern; Scan
PTZ Protocol	DH-SD

Certification

Certifications	CE: EN55032/EN62368-1
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Port

Audio Input	1 channel (terminal)
Audio Output	1 channel (terminal)
Alarm Input	2 channels 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 (±10%), 2.5 A; PoE+ (802.3at)
Power Consumption	Basic: 8.1 W (12 VDC); 12 W (PoE); Max.: 19 W (12 VDC); 21.5 W (PoE) (motor + all lights + heating on); Heating: 1.68 W (12 VDC); 1.7 W (PoE)

Environment

Operating Temperature	–40 °C to +65 °C (–40 °F to +149 °F)
Operating Humidity	≤95% (RH), non-condensing
Storage Temperature	–40 °C to +65 °C (–40 °F to +149 °F)
Storage Humidity	≤95% (RH), non-condensing
Protection	IP66; TVS 6000 V lightning proof; surge protection; voltage transient protection

Anti-corrosion Level	Basic Protection *The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection.
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Structure

Casing Material	Metal + Plastic
Product Dimensions	270.4 mm × Φ160 mm (10.64" × Φ6.30")
Net Weight	2.2 kg (4.85 lb)
Gross Weight	3.5 kg (7.72 lb)

Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD4F420DA-HNY	4MP 20x WizColor Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	DH-PFB301S-E	Plane Mount Bracket
	PFA111	Mount Adapter
	DH-PFB300C	Ceiling Mount Bracket
	DH-PFA151	Corner Mount Bracket
	DH-PFA126	Water-proof Junction Box
	DH-PFA150	Pole Mount Bracket
	DH-PFB303S	Parapet Mount Bracket
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/512GB	MicroSD Card
	DC12V/2.5A	Power Adapter

Accessories

Included:



PFB305W
Wall Mount Bracket

Optional:



DH-PFB301S-E
Plane Mount Bracket



PFA111
Mount Adapter



DH-PFB300C
Ceiling Mount Bracket



DH-PFA151
Corner Mount Bracket



DH-PFA126
Water-proof Junction Box



DH-PFA150
Pole Mount Bracket



DH-PFB303S
Parapet Mount Bracket



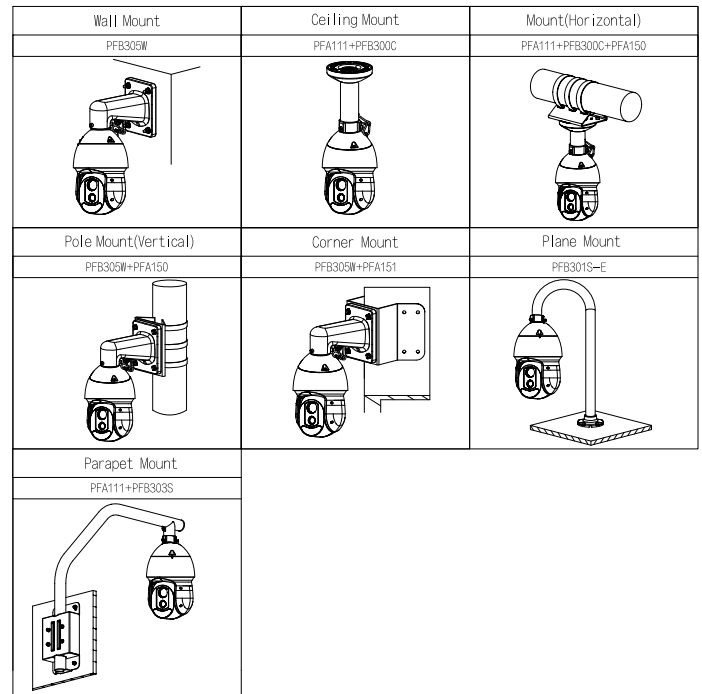
PFM900-E
Integrated Mount Tester



DHI-TF-P100/512GB
MicroSD Card



DC12V/2.5A
Power Adapter



Dimensions (mm[inch])

