

DH-SD7X442MA-HNF-ATC

4MP 42× Anti-corrosion WizMind PTZ Camera






Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

Series Overview

This advanced PTZ camera combines intelligent analytics with long-range surveillance capabilities, featuring smart pan/tilt correction and precise control for proactive security monitoring. It delivers vibrant, high-quality images both day and night. Ideal for large-scale perimeter protection and intelligent surveillance applications.

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.

Highly Anti-Corrosion Polymer Material

Crafted from a specially formulated blend of nylon and densely distributed glass fiber, this device features an exceptionally durable surface that effectively resists corrosion. It consistently outperforms conventional aluminum alloys, even in the most demanding environments.

- 1/1.8" 4 Megapixel CMOS.
- 42× optical zoom.
- 4MP (2560 × 1440)@25/30 fps.
- Warm light distance up to 100 m.
- IR + Laser distance up to 400 m.
- Xinghan Large-Scale AI Models.
- AcuPick.
- Wiztracking.
- Gyroscope EIS.
- Wiper.
- IP67 and NEMA 4X.
- Smart Pan-Tilt Correction.
- Window Heating.
- Professional anti-corrosion protection.



Smart Pan-Tilt Correction

Smart Pan-Tilt Correction is an intelligent function that can enhance the anti-disturbance capability of the monitoring system. When the PTZ is moved away from its preset position due to external forces, this function automatically drives the PTZ camera to return to the designated preset point, ensuring the accuracy of the monitoring perspective.

AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

Gyroscope EIS

Gyroscope EIS technology utilizes built-in high-precision gyroscope and accelerometer to precisely capture 6-axis vibration data. Combined with the ISP stabilization algorithm for compensation, it achieves superior stabilization performance.

Face Recognition

Face attributes are extracted from captured faces, and stored in a database where they can be conveniently searched for and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 10,000 face images, allowing the camera to capture and compare face images in real time.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	2560 (H) × 1440 (V)
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1 s–1/30,000 s
Min. Illumination	0.001 lux@F1.6 (Color) 0.0001 lux@F1.6 (B/W) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	Up to 100 m (328.08 ft) (Warm light) Up to 400 m (1312.34 ft) (IR + Laser)
Illuminator On/Off Control	Auto;Manual;Zoomprio;Off
Illuminator Number	4 (Warm light); 4 (Laser light); 2 (IR light)
Wiper	Wiper
Angle Adjustment	Pan: 0° to 360° Tilt: –20° to 90°

Lens

Optical Zoom	42×
Focal Length	6.0 mm–252 mm
Max. Aperture	F1.6
Field of View	H: 63.9°–2.1°; V: 37.3°–1.2°; D: 71.2°–2.4°
Iris Control	Auto;Manual
Iris Control Type	Hall
Close Focus Distance	1 m–5 m (3.28 ft–16.40 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	93.8 m (307.74 ft)	37.5 m (123.03 ft)	18.8 m (61.68 ft)	9.4 m (30.84 ft)
	T	2536.6 m (8322.18 ft)	1014.6 m (3328.74 ft)	507.3 m (1664.37 ft)	253.7 m (832.35 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, fast moving (the three functions support the classification and accurate detection of vehicle and human), crossing fence, loitering detection, crowd gathering, parking detection. Supports linkage tracking. 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 and motor vehicles, and search through live and recorded videos to quickly locate targets.

Face Recognition	Supports face detection, optimization, capturing pictures, uploading high-quality face snapshots and enhancing face images. Attribute extraction is also supported, where 6 attributes and 8 expressions can be detected. Face cutout is also offered, where you can cutout one face at a time and customize the size to be a one-inch photo. It supports up to 5 face databases, where people can be added one by one or in batches. The face similarity can also be set, and faces can be compared against 10,000 faces.
Video Metadata	Supports detection of motor vehicles, non-motor vehicles, faces and human bodies, optimization, capturing pictures, and uploading high-quality face snapshots. It extracts attributes from motor vehicles and non-motors, detecting up to 9 attributes for motor vehicles and 7 for non-motor vehicles. It also extracts attributes from human faces and bodies, detecting up to 6 attributes for faces, and 8 for bodies.
Smart Tracking	Wiztracking

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+
AI Coding	AI H.265; AI H.264 *Includes smart codec technology, Smart H.265+ and Smart H.264+
Video Frame Rate	Main stream: 2560 × 1440@(1–25/30 fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 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	4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576); VGA (640 × 480); CIF (352 × 288)
Bit Rate Control	VBR;CBR
Video Bit Rate	H.264: 32 kbps–14848 kbps H.265: 12 kbps–8960 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	150 dB
White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural; street lamp
Gain Control	Auto/Manual
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Gyroscope EIS
Defog	Electronic
Digital Zoom	Yes
Image Rotation	0°/180°

Privacy Masking	Up to 32 areas can be set, with up to 8 areas in the same view; color block and mosaic selectable
Audio	
Audio Compression	PCM; G.711A; G.711Mu; G.726; MPEG2-Layer2; G.722.1; G.729; G.723
Alarm	
Alarm Event	Motion detection; video tampering; audio detection; network disconnection; IP conflict; storage card status; storage space
Network	
Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; IPv6; 802.1x; SSL; QoS; FTP; UPnP; ICMP; SNMP; IGMP; ARP; RTP; PPPoE; RTMP; Bonjour; NFS
Interoperability	ONVIF (Profile S & Profile G & Profile T & Profile M); CGI; SDK
User/Host	20 (Total bandwidth: 64 M)
Storage	Micro SD card (supports max 1 TB); FTP/SFTP; NAS
Browser	IE 9 and later versions Chrome 41 and later versions Firefox 50 and later versions Safari 10 and later versions
Management Software	DMSS/NVR/DSS Pro
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;SSL/TLS1.2;AES 256
Function	
Light Warning	Warm light warning Flash duration: 5 s–30 s Flash frequency: high, medium, low
Sound Warning	Offers 16 sound alarms and supports importing custom sound alarms. Sound: high, medium, low. Duration: 5 s–30 s. (An external speaker is required.)
Heater (Window Heating)	Yes
PTZ	
Pan/Tilt Range	Pan: 0° to 360° endless, smart pan-tilt correction Tilt: –20° to +90°, auto flip 180°, smart pan-tilt correction
Manual Control Speed	Pan: 0°/s–240°/s; Tilt: 0°/s–120°/s
Preset	300
Preset Speed	Pan: 240°/s; Tilt: 120°/s
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes

Idle Motion	Preset;Pattern;Tour;Scan
PTZ Protocol	DH-SD Pelco-P/D (Auto recognition)
Smart pan-tilt correction	YES

Certification

Certifications	CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU NEMA 4X
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Port

RS-485	1 (baud rate range: 1200 bps–9600 bps)
Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT, bare wire)
Alarm Input	7 channels in: supports wet contact connection (max load 5 mA 3–5 VDC); supports dry contact connection
Alarm Output	2 channels out: dry contact, max load 1,000 mA 30 VDC/500 mA 50 VAC

Power

Power Supply	36 VDC; 2.23 A (±25%); PoE++ (802.3bt)
Power Consumption	Basic: 15 W Max (Distant IR light 100% + tour + heating + wiper on): 35 W

Environment

Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤95% (RH), non-condensing
Storage Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Storage Humidity	≤95% (RH), non-condensing
Protection	IP67; TVS 6000 V lightning proof; surge protection; voltage transient protection
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	Polymeric material
Product Dimensions	378.5 mm × Φ241.7 mm (14.90" × Φ9.52")
Net Weight	5.92 kg (13.05 lb)
Gross Weight	8.64 kg (19.05 lb)

Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD7X442MA-HNF-ATC	4MP 42× Anti-corrosion WizMind PTZ Camera

Type	Model	Description
Accessories	DH-PFB302WH-SG	Wall Mount Bracket
	DC36V2.23A	Power Adapter
	DH-PFA114H-SG	Mount Adapter
	DH-PFB300CH-SG	Anti-corrosion Ceiling Mount Bracket
	DH-PFA5510H-SG	Anti-corrosion Pole Mount Bracket
	DH-PFA6400SH	Anti-corrosion Power Box
	PFM900-E	Integrated Mount Tester
	DHI-TF-P100/1TB	MicroSD Card

Wall Mount	Ceiling Mount
PFA114H-SG+PFB302WH-SG+PFA6400SH	PFA114H-SG+PFB300CH-SG
Pole Mount(Vertical)	Pole Mount(Horizontal)
PFA114H-SG+PFB302WH-SG+PFA6400SH+PFA5510H-SG	PFA114H-SG+PFB300CH-SG+PFA5510H-SG

Accessories

Included:



DH-PFB302WH-SG
Wall Mount Bracket



DC36V2.23A
Power Adapter



DH-PFA114H-SG
Mount Adapter

Optional:



DH-PFB300CH-SG
Anti-corrosion Ceiling
Mount Bracket



DH-PFA5510H-SG
Anti-corrosion Pole
Mount Bracket



DH-PFA6400SH
Anti-corrosion Power Box



PFM900-E
Integrated Mount Tester



DHI-TF-P100/1TB
MicroSD Card

Dimensions (mm[inch])

