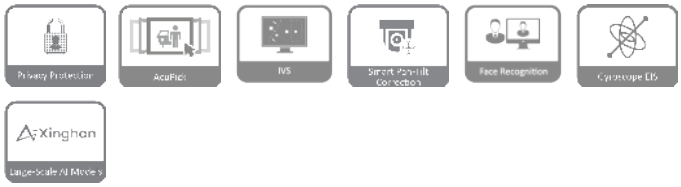
DH-SD7A440FA-HNF-ATC

4MP 40X IR High-Speed Network PTZ Camera



- 1/1.8" 4Megapixel CMOS.
- 40× optical zoom.
- Ultra light sensitivity.
- Max 100/120 fps@2M and 50/60 fps@4M.
- IR distance up to 300 m.
- Perimeter Protection.
- Face Recognition.
- Video Metadata.
- Privacy Protection.
- Gyroscope EIS.
- IP67, IK10, NEMA4X.
- AcuPick.
- Smart Pan-Tilt Correction.
- WizTracking.
- Xinghan Large-Scale AI Models.



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 delivers ultimate control, with a horizontal rotation speed up to 700°/s and a vertical rotation speed up to 300°/s, allowing broad coverage and rapid focus on details. It features dynamic mosaic masking for faces and bodies and a dome cover for improved privacy. A TPM2.0 encryption module achieves end-to-end privacy protection. Gyroscope EIS ensures stable operation in scenes such as transportation hubs.

Functions

Privacy Protection

For public scenes, mosaics can be used in real time to block detected human faces or body parts on the monitoring screen while people are moving to protect the privacy of special groups.

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.

IVS

With advanced video algorithm, Dahua IVS technology supports intelligent functions, such as tripwire and intrusion.

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.

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.

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.

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Pixel	4 MP
Max. Resolution	2688 (H) × 1520 (V)
ROM	8 GB
RAM	4 GB
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	0.001 lux@F1.6 (Color) 0.0001 lux@F1.6 (B/W) 0 lux (IR light on)
Illumination Distance	300 m (984.25 ft) (IR)
Illuminator On/Off Control	Zoom Prio; Manual; Auto; Off
Illuminator Number	6 (IR light)

Lens

Focal Length	5.5 mm–220 mm
Max. Aperture	F1.6–F4.9
Field of View	H: 60.82°–2.26°; V: 36.24°–1.26°; D: 68.7°–2.59°
Optical Zoom	40×
Focus Control	Auto; Semi-auto; Manual
Close Focus Distance	0.5 m–5 m (1.64 ft–16.40 ft)
Iris Control	Auto; Manual; Iris Priority

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	75.86 m (248.88 ft)	29.97 m (98.33 ft)	15.17 m (49.77 ft)	7.59 m (24.90 ft)
	T	3,034.48 m (9,955.64 ft)	1,198.62 m (3,932.48 ft)	606.9 m (1,991.14 ft)	303.45 m (995.57 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.				

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: 0.1°/s–700°/s; Tilt: 0.1°/s–300°/s
Preset Speed	Pan: 550°/s; Tilt: 300°/s
Preset	300
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

Intelligence

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 10 attributes for motor vehicles and 8 for non-motor vehicles. It also extracts attributes from human faces and bodies, detecting up to 6 attributes for faces, and 8 for bodies.
IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human and vehicle alarm classification; detail camera linkage for positioning and tracking when multiple rules are triggered; cascaded video metadata; linkage tracking; privacy protection.
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
Smart Tracking	WizTracking
AcuPick	Uses deep learning algorithms and works with backend devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.
Privacy Protection	In public scenes, mosaics can be covered the detected faces or body parts in the image in real time while people are moving to protect the privacy of special groups.

Video

Video Compression	Smart H.265+;H.265;Smart H.264+;H.264;H.264B;H.264H;MJPEG(Sub Stream 1)
Streaming Capability	3 streams
Resolution	4M (2688 × 1520); 4M (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)
Video Frame Rate	Main stream: 4M/3M@(1–50/60 fps)/1080p/1.3M/720p@(1–100/120 fps) Sub stream 1: D1/VGA/CIF@(1–25/30 fps) Sub stream 2: 1080p/1.3M/720p/CIF@(1–25/30 fps) *High frame rate is supported under monitoring mode only.
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 96 kbps–14848 kbps H.265: 38 kbps–8960 kbps
Day/Night	Auto; Color; B/W; Electronic
BLC	Yes

WDR	150 dB
HLC	Yes
White Balance	Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp
Gain Control	Auto; Manual; Gain Prio
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Gyroscope EIS
Digital Zoom	16×
Image Rotation	180°
Privacy Masking	Up to 24 areas can be set, with up to 8 areas in the same view; color block and mosaic selectable
S/N Ratio	≥55dB

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723

Network

Network Port	RJ-45 (10/100/1000 Base-T)
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;RTCP;RTP;PPPoE;RTMP;Bonjour;NFS
Interoperability	CGI;SDK;ONVIF (Profile S & Profile G & Profile T & Profile M)
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (max 1 TB); FTP; 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

Certification

Certifications	CE: EN55035; EN IEC61000-3-2; EN55032; EN60950; EN62368-1

Port

Analog Output	1 channel (CVBS output, BNC)
RS-485	1 (Baud rate: 1200 bps–9600 bps)
Audio Input	1 channel (LINE IN, bare wire)
Audio Output	1 channel (LINE OUT,bare wire)
Alarm Input	7 (digital input: 0–5 VDC)
Alarm Output	2 channels
Alarm Linkage	Snapshot; preset; tour; pattern; recording; alarm digital output; send email; audio
Alarm Event	Motion detection; video tampering; audio detection; network disconnection; IP conflict; storage card status; storage space

Power

Power Supply	36 VDC; 2.23 A (±25%) PoE (802.3bt)
Power Output	Yes
Power Consumption	Basic: 22 W Max (Illuminator + PTZ operation +Heating on): 33 W
Power Adapter	Included

Environment

Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤95%
Protection	IP67;IK10;TVS 6000 V lightning proof; surge protection; voltage transient protection
Anti-corrosion Level	Moderate Protection *The products feature high-grade anti-corrosion protection, making them well-suited for environments with standard corrosion resistance requirements. They perform reliably from 2 km (1.24 mi) and above in coastal areas and in locations prone to acid rain exposure.

Structure

Product Dimensions	221.66 mm × 218.42 mm × 320.8 mm (8.73" × 8.60" × 12.63") (L × W × H)
Net Weight	4.96 kg (10.93 lb)
Gross Weight	8.21 kg (18.10 lb)

Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD7A440FA-HNF-ATC	4MP 40X IR High-Speed Network PTZ Camera
Accessories	DC36V/2.23A	Power Adapter
	PFB306WA-SG	Wall Mount Bracket
	DH-PFB300C-SG	Ceiling Mount Bracket
	DH-PFA155A-SG	Anti-corrosion Pole Mount Bracket

Accessories

Included:



DC36V/2.23A
Power Adapter

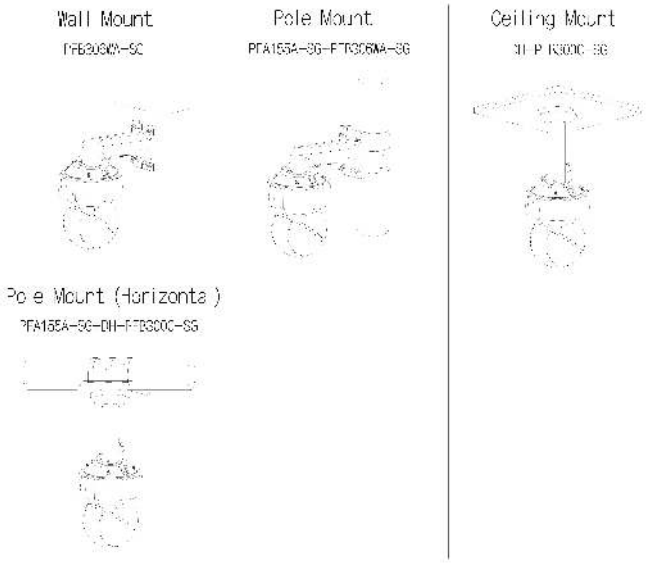


PFB306WA-SG
Wall Mount Bracket

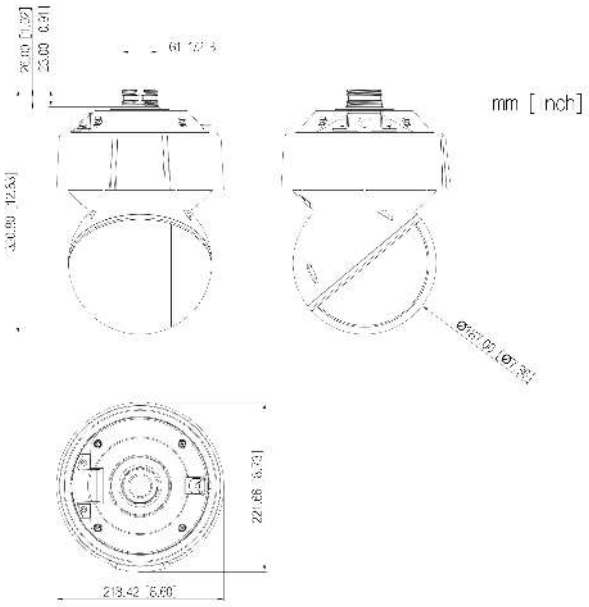
Optional:



DH-PFB300C-SG
Ceiling Mount Bracket



Dimensions (mm[inch])



©Dahua. All rights reserved. Design and specifications are subject to change without notice.
Pictures in the document are for reference only, and the actual product shall prevail.