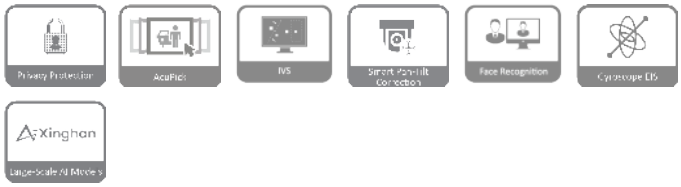
# DH-SD7A840FA-HNF

## 8MP 40X IR High-Speed Network PTZ Camera



- 1/1.8" 8Megapixel CMOS.
- 40× optical zoom.
- Ultra light sensitivity.
- Max 100/120 fps@2M,50/60 fps@4M/8M.
- IR distance up to 300 m.
- Perimeter Protection.
- Face Recognition.
- Video Metadata.
- Privacy Protection.
- Gyroscope EIS.
- IP67, IK10.
- 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 | 8 MP |
| Max. Resolution | 3840 (H) × 2160 (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)<br>0.0001 lux@F1.6 (B/W)<br>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 | 110 m ( 360.89 ft) | 43.45 m ( 142.55 ft) | 22 m ( 72.18 ft) | 11 m ( 36.09 ft) |
| | T | 4,400 m ( 14,435.70 ft) | 1,738 m ( 5,702.10 ft) | 880 m ( 2,887.14 ft) | 440 m ( 1,443.57 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<br>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<br>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 | 8M (3840 × 2160); 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: 8M/4M/3M@(1–50/60 fps);/1080p/1.3M/720p@(1–100/120 fps)<br>Sub stream 1: D1/VGA/CIF@(1–25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p/CIF@(1–25/30 fps)<br>*High frame rate is supported under monitoring mode only. |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H264: 128 kbps–16384 kbps<br>H265: 51 kbps–11776 kbps |
| Day/Night | Auto; Color; B/W; Electronic |
| BLC | Yes |

| | |
|---|---|
| WDR | 140 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<br>Chrome 41 and later versions<br>Firefox 50 and later versions<br>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%)<br>PoE (802.3bt) |
| Power Output | Yes |
| Power Consumption | Basic: 22 W<br>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 | Basic Protection<br>*The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection. |

## 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-SD7A840FA-HNF | 8MP 40X IR High-Speed Network PTZ Camera |
| Accessories | DC36V/2.23A | Power Adapter |
| | PFB306W-S | Wall Mount Bracket |
| | DH-PFB300C-SG | Ceiling Mount Bracket |
| | DH-PFA150-SG | Pole Mount Bracket |

## Accessories

Included:



DC36V/2.23A
Power Adapter



PFB306W-S
Wall Mount Bracket

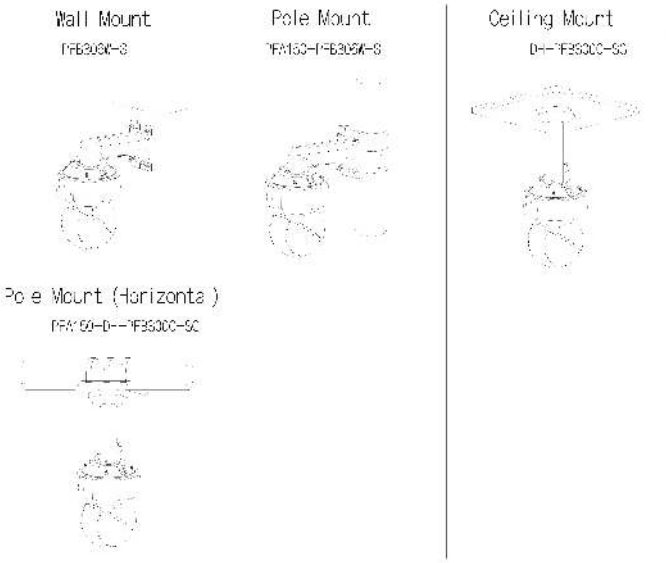
Optional:



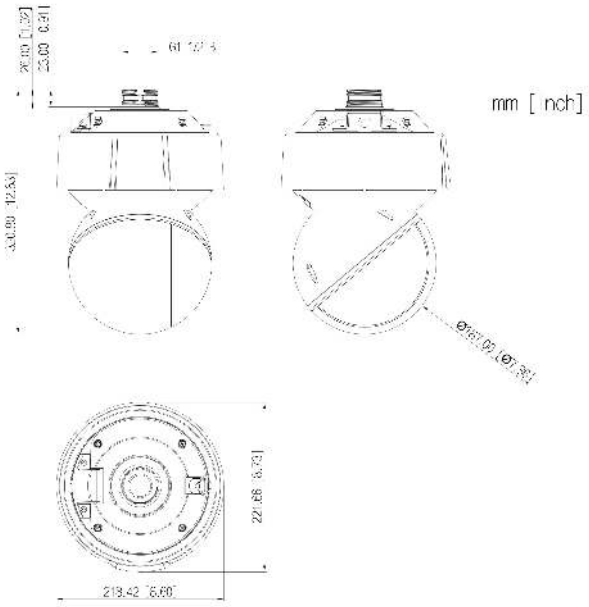
DH-PFB300C-SG
Ceiling Mount Bracket



DH-PFA150-SG
Pole Mount Bracket




## Dimensions (mm[inch])




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