

# DH-SDT4E425-4F-MB-AGQ-PV1-EAU

4+4MP 25x 4G AOV TiOC Network PTZ Camera



Xinghan X-Spans

## Series Overview

Designed with more lens than the conventional PTZ camera, the X-Spans series camera captures an expansive view, producing wide, vivid images. It has the combined power of the panoramic and detail camera in its structure and is highly cost-effective, greatly reducing the installation cost of security systems. It also leverages its two cameras to perform smart tracking, and has an independent mode that allows you to separately use each camera.

## Functions

### WizColor Technology

Dahua WizColor Technology seamlessly combines with the powerful AI-ISP, large pixel size sensor and large aperture in cameras. This unique integration enables cameras to effortlessly capture high-quality images with vibrant colors during nighttime scenarios, ensuring fine details are preserved and minimizing motion blur. Unlike traditional self-illuminating cameras, Dahua WizColor Technology maximizes the utilization of weak light sources, such as moonlight and city lights reflected in the sky, delivering captivating full-color images of the entire scene. It also ensures that monitoring distances are not compromised at night due to limited illumination ranges, facilitating full-color image capture even over long distances.

### 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.

- Overview channel: 1/1.8" CMOS 4Megapixel F1.0 CMOS,
- Detail channel: 1/2.8" CMOS 4Megapixel CMOS
- 25x optical zoom
- Max. 25/30 fps@4M
- 100m IR & 100m warm light.
- WizColor Technology
- AOV Mode
- Xinghan Large-Scale AI Models
- WizTracking
- ANPR
- 4G
- Built-in dual mics and a speaker



### AOV (Always-On Video) Mode

AOV (Always-On Video) technology offers a low power consumption solution that enables 24/7 video recording. Equipped with advanced AI algorithms, the camera can be woken up to perform detection even at long distances. During inactive periods, it records at a low frame rate and seamlessly escalates to a high frame rate when an event is detected, ensuring smooth and continuous video recordings.

### 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.

### 4G

With a built-in high-performance 4G mobile network module, the camera can be directly registered to cloud platforms after a 4G SIM card has been inserted into it. It can be installed anywhere without the hassle of network cables. Users can perform real-time monitoring and remote control of the camera from a mobile client through 4G network.

## Technical Specification

### Camera

|                            |                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | Overview channel: 1/1.8" CMOS<br>Detail channel: 1/2.8" CMOS                                                                       |
| Pixel                      | Overview channel: 4 MP<br>Detail channel: 4 MP                                                                                     |
| Max. Resolution            | Overview channel: 2560 (H) × 1440 (V)<br>Detail channel: 2560 (H) × 1440 (V)                                                       |
| Electronic Shutter Speed   | Auto/Manual 1 s–1/100,000 s                                                                                                        |
| Scanning System            | Progressive                                                                                                                        |
| Min. Illumination          | Overview channel:<br>0.001 lux@F1.0 (Color)<br>Detail channel:<br>0.005 lux@F1.6 (Color)<br>0.0005 lux@F1.6 (B/W)<br>0 lux (IR on) |
| Illumination Distance      | Overview channel: 30 m (98.43 ft) (Warm light)<br>Detail channel: 100 m (328.08 ft) (IR); 100 m (328.08 ft) (Warm light)           |
| Illuminator On/Off Control | Overview channel: Manual; Auto; Off<br>Detail channel: Zoom Priority; Manual; Auto; Off                                            |
| Illuminator Number         | Overview channel:<br>2 (Warm light)<br>Detail channel:<br>2 (Warm light)<br>2 (IR light)<br>2 (Dual light fusion)                  |

### Lens

|                      |                                                                                                            |
|----------------------|------------------------------------------------------------------------------------------------------------|
| Focal Length         | Overview channel: 4 mm<br>Detail channel: 5 mm–125 mm                                                      |
| Max. Aperture        | Overview channel: F1.0<br>Detail channel: F1.6                                                             |
| Field of View        | Overview channel: H: 95°; V: 52.5°; D: 116°<br>Detail channel: H: 51.9°–3.0°; V: 39.7°–2.2°; D: 63.1°–3.7° |
| Optical Zoom         | Detail channel: 25×                                                                                        |
| Focus Control        | Auto; Semi-auto; Manual                                                                                    |
| Close Focus Distance | Overview channel: 2.5 m (8.20 ft)<br>Detail channel: 0.5 m–5 m (1.64 ft–16.40 ft)                          |
| Iris Control         | Detail channel: Auto; Manual; Iris Priority                                                                |

|               | Lens                                                                                                                                                                                                                                                         | Detect                   | Observe                 | Recognize               | Identify              |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------|-------------------------|-----------------------|
| DORI Distance | Overview channel: D                                                                                                                                                                                                                                          | 181.10 ft                | 21.8 m<br>( 71.52 ft)   | 11.0 m<br>( 36.09 ft)   | 5.5 m<br>( 18.04 ft)  |
|               | Detail channel: W                                                                                                                                                                                                                                            | 96 m<br>( 314.96 ft)     | 37.9 m<br>( 124.34 ft)  | 19.2 m<br>( 62.99)      | 9.6 m<br>( 31.50 ft)  |
|               | T                                                                                                                                                                                                                                                            | 2400 m<br>( 7,874.02 ft) | 948 m<br>( 3,110.24 ft) | 480 m<br>( 1,574.80 ft) | 240 m<br>( 787.40 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 |                          |                         |                         |                       |

|               |                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------|
| DORI Distance | distances. For intelligent function distances, refer to installation and commissioning manual/project design tool. |
|---------------|--------------------------------------------------------------------------------------------------------------------|

### PTZ

|                      |                                                                                                                                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Pan/Tilt Range       | Overview channel: Pan: 0°; Tilt: 12° to 24° (Manually)<br>Detail channel: 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–80°/s                                                                                                 |
| Preset Speed         | Pan: 80°/s; Tilt: 80°/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                                                                                                              |

### Intelligence

|                            |                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IVS (Perimeter Protection) | Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle, animal and human), loitering detection, people gathering, parking detection, stay detection. Offers Perimeter Protection Large-Scale AI Models to extend the target detection range and reduce the rate of false alarm.                           |
| Face Detection             | Face detection; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting. |
| Smart Tracking             | Linkage Tracking; Relay Tracking; WizTracking                                                                                                                                                                                                                                                                                                                         |
| SMD                        | SMD 4.0                                                                                                                                                                                                                                                                                                                                                               |
| Auto Patrol                | After an IVS event occurs, the PTZ camera immediately initiates automated patrol of predefined key points to quickly cover potential risk areas and detect unknown threats in real time.                                                                                                                                                                              |

### Active Deterrence

|               |                                                                                                                            |
|---------------|----------------------------------------------------------------------------------------------------------------------------|
| Light Warning | Red and blue light warning<br>Flash duration: 5 s–180 s<br>Flash frequency: high, medium, low                              |
| Sound Warning | Offers 11 sound alarms and supports importing 10 custom sound alarms<br>Sound: 0–100<br>Play times can be set from 1 to 10 |

### Video

|                      |                                                                                                                                                                                                                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Compression    | Smart H.265+;H.265;Smart H.264+;H.264B;H.264M;H.264H;MJPEG(Sub Stream 1)                                                                                                                                                                                                                                                               |
| Streaming Capability | 3 streams                                                                                                                                                                                                                                                                                                                              |
| Resolution           | Overview channel: 4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)<br>Detail channel: 4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |

|                          |                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Frame Rate         | Overview channel:<br>Main stream: 4M (2560 × 1440)/3M (2304 × 1296)/1080p/1.3M/720p@(1–25/30 fps)<br>Sub stream 1: D1/VGA/CIF@(1–25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p@(1–25/30 fps)<br>Detail channel:<br>Main stream: 4M (2560 × 1440)/3M (2304 × 1296)/1080p/1.3M/720p@(1–25/30 fps)<br>Sub stream 1: D1/VGA/CIF@(1–25/30 fps)<br>Sub stream 2: 1080p/1.3M/720p@(1–25/30 fps) |
| Bit Rate Control         | CBR/VBR                                                                                                                                                                                                                                                                                                                                                                                |
| Video Bit Rate           | H264: 64 kbps–10496 kbps<br>H265: 25 kbps–6400 kbps                                                                                                                                                                                                                                                                                                                                    |
| Day/Night                | Overview channel: Color/B/W<br>Detail channel: Auto (ICR)/Color/B/W                                                                                                                                                                                                                                                                                                                    |
| BLC                      | Yes                                                                                                                                                                                                                                                                                                                                                                                    |
| WDR                      | Overview channel: 150 dB<br>Detail channel: 120 dB                                                                                                                                                                                                                                                                                                                                     |
| HLC                      | Yes                                                                                                                                                                                                                                                                                                                                                                                    |
| White Balance            | Overview channel:Auto; outdoor; manual; regional custom; natural light; street lamp<br>Detail channel:Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp                                                                                                                                                                                                 |
| Gain Control             | Auto; manual; gain priority                                                                                                                                                                                                                                                                                                                                                            |
| Noise Reduction          | 2D NR; 3D NR                                                                                                                                                                                                                                                                                                                                                                           |
| Motion Detection         | Yes                                                                                                                                                                                                                                                                                                                                                                                    |
| Region of Interest (RoI) | Yes                                                                                                                                                                                                                                                                                                                                                                                    |
| Defog                    | Overview channel: Electronic<br>Detail channel: Electronic                                                                                                                                                                                                                                                                                                                             |
| Digital Zoom             | 16×                                                                                                                                                                                                                                                                                                                                                                                    |
| Image Rotation           | 180°                                                                                                                                                                                                                                                                                                                                                                                   |
| Privacy Masking          | Up to 32 areas can be set, with up to 8 areas in the same view; multiple colors and mosaics are available                                                                                                                                                                                                                                                                              |
| S/N Ratio                | ≥55 dB                                                                                                                                                                                                                                                                                                                                                                                 |

## Audio

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| Audio Compression | PCM; G.711A; G.711Mu; G.726; MPEG2-Layer2; G.722.1; G.729; G.723 |
| Built-in MIC      | Yes, built-in dual Mic                                           |
| Built-in Speaker  | Yes, built-in speaker                                            |

## Network

|                         |                                                                                                                                                                                        |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network Port            | RJ-45 (10/100 Base-T)                                                                                                                                                                  |
| Wi-Fi                   | Yes                                                                                                                                                                                    |
| Wi-Fi Standard          | IEEE802.11b;IEEE802.11g;IEEE802.11n;IEEE802.11ax                                                                                                                                       |
| Wi-Fi Frequency Range   | 2.4 GHz                                                                                                                                                                                |
| Wi-Fi Transmission Rate | 229.4 Mbps                                                                                                                                                                             |
| Carrier Network System  | 4G:<br>FDD-LTE: B1/B3/B7/B8/B20/B28 (CAT4 max 150 Mbps (DL)/max 50 Mbps (UL))<br>TDD-LTE: B38/B40/B41 (CAT4 max 130 Mbps (DL)/max 30.5 Mbps (UL))<br>Application regions: EU countries |

|                                 |                                                                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Wireless Carrier Frequency Band | 4G: FDD-LTE: B1/B3/B7/B8/B20/B28; TDD-LTE:B38/B40/B41; 3G: WCDMA: B1/B8 (2100/900MHz); 2G: CDMA: BCO (800MHz); GSM: B3/B8 (1800/900MHz)    |
| Max. Transmission Power         | ≤20 dBm@2400–2483.5 MHz; ≤23 dBm@5150–5250 MHz<br>≤23 dBm@5250–5350 MHz; ≤33 dBm@5725–5850 MHz                                             |
| 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;SMB;NFS |
| Interoperability                | CGI;SDK;P2P                                                                                                                                |
| Streaming Method                | Unicast/Multicast                                                                                                                          |
| User/Host                       | 20 (total bandwidth: 64 M)                                                                                                                 |
| Storage                         | Micro SD card (up to 1 TB); FTP/SFTP; NAS                                                                                                  |
| Browser                         | Web5.0:<br>IE9 and later versions<br>Chrome 41 and later versions<br>Firefox 50 and later versions<br>Safari 10 and later versions         |
| Management Software             | DMSS;DSS Pro                                                                                                                               |
| Mobile Client                   | iOS;Android                                                                                                                                |

## Certification

|                |                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------|
| Certifications | CE-LVD: EN62368-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>CE-RED: Radio Equipment Directive 2014/53/EU |
|----------------|---------------------------------------------------------------------------------------------------------------------------------|

## Port

|               |                                                                                                                                                                                                                                                                                                                                                           |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Audio Input   | 1 channel (LINE IN, bare wire)                                                                                                                                                                                                                                                                                                                            |
| Audio Output  | 1 channel (LINE OUT,bare wire;built-in speaker (mutually exclusive) )                                                                                                                                                                                                                                                                                     |
| Alarm Input   | 2 (digital input: 0–5 VDC)                                                                                                                                                                                                                                                                                                                                |
| Alarm Output  | 1 channel                                                                                                                                                                                                                                                                                                                                                 |
| Alarm Linkage | Capture; recording; send email; preset; tour; pattern; warning light; alarm digital output; audio; wake                                                                                                                                                                                                                                                   |
| Alarm Event   | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; audio detection; external alarm; crossing fence; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; crowd detection; parking detection; face detection; face recognition; ANPR; SMD |

## Power

|              |                            |
|--------------|----------------------------|
| Power Supply | 12 VDC; 4 A (–10% to +25%) |
|--------------|----------------------------|

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Consumption | AOV mode (AI ISP off): 1.0 W<br>AOV mode (AI ISP on, light off): 1.3 W<br>AOV mode (AI ISP on, light on): 2.0 W<br>Power saving mode: 0.6 W<br>Performance mode (without 4G streaming; AI ISP off): 7.9 W<br>Performance mode (without 4G streaming; AI ISP on): 10.5 W<br>Performance mode (4G streaming; 1080p; AI ISP off): 8.5 W<br>Performance mode (4G streaming; 1080p; AI ISP on): 11.0 W<br>Max (AI ISP + illuminator + heating + PTZ + 4G streaming on): 32 W |
| Power Adapter     | Optional                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Environment

|                       |                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | −40 °C to +65 °C (−40 °F to +149 °F)                                                                                                                         |
| Operating Humidity    | ≤95%                                                                                                                                                         |
| Protection            | IP67                                                                                                                                                         |
| 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 | 181.42 mm × 159.93 mm × 301.60 mm (7.14" × 6.30" × 11.87") (L × W × H) |
| Net Weight         | 3.4 kg (7.50 lb)                                                       |
| Gross Weight       | 4.88 kg (10.76 lb)                                                     |

## Ordering Information

| Type               | Model                         | Description                              |
|--------------------|-------------------------------|------------------------------------------|
| Network PTZ Camera | DH-SDT4E425-4F-MB-AGQ-PV1-EAU | 4+4MP 25x 4G AOV TiOC Network PTZ Camera |
| Accessories        | PFB305W                       | Wall Mount Bracket                       |
|                    | DH-PFB301S-E                  | Plane Mount Bracket                      |
|                    | DH-PFB300C                    | Ceiling Mount Bracket                    |
|                    | PFA114                        | Mount Adapter                            |
|                    | 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                  |

## Accessories

Included:



PFB305W  
Wall Mount Bracket

Optional:



DH-PFB301S-E  
Plane Mount Bracket



DH-PFB300C  
Ceiling Mount Bracket



PFA114  
Mount Adapter



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

| Wall Mount     | Ceiling Mount           | Pole Mount (Vertical) |
|----------------|-------------------------|-----------------------|
| PFB305W        | PFA114+PFB300C          | PFB305W+PFA150        |
|                |                         |                       |
| Corner Mount   | Pole Mount (Horizontal) |                       |
| PFB305W+PFA151 | PFA114+PFB300C+PFA150   |                       |
|                |                         |                       |

Dimensions (mm[inch])

