

# DH-SDT4E225-4F-GB-A-PV1-S2

2+4MP 25x Smart Dual Illumination Active Deterrence X-Spans Network PTZ Camera






## 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

### 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.

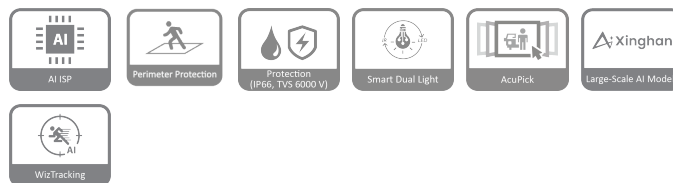
### SMD

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.

### Protection (IP66, TVS 6000 V)

IP66, TVS 6000 V lightning proof, surge protection, and voltage transient protection.

- Overview channel: 1/2.8" 4Megapixel F1.0 CMOS
- Detail channel: 1/2.8" 2Megapixel CMOS
- 25× optical zoom
- Max. 25/30 fps@4M
- IR distance up to 100m
- Xinghan Large-Scale AI Models
- Wiztracking; Relay Tracking
- Perimeter protection
- Active deterrence
- Smart dual light +
- Built-in dual mics and a speaker for two-way talk



### Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

### 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.

### 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.

## Technical Specification

### Camera

|                            |                                                                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | Overview channel: 1/2.8" CMOS; Detail channel: 1/2.8" CMOS                                                                                                                                                                       |
| Pixel                      | Overview channel: 4 MP; Detail channel: 2 MP                                                                                                                                                                                     |
| Max. Resolution            | Overview channel: 2560 (H) × 1440 (V); Detail channel: 1920 (H) × 1080 (V)                                                                                                                                                       |
| Electronic Shutter Speed   | Overview channel: 1/3s-1/100000s;<br>Detail channel: 1s-1/30000s                                                                                                                                                                 |
| Scanning System            | Progressive                                                                                                                                                                                                                      |
| Min. Illumination          | Overview channel:<br>0.001 lux@F1.0 ( Color, 30 IRE)<br>0.0005 lux@F1.0 (B/W, 30 IRE)<br>0 lux (illuminator on)<br>Detail channel:<br>0.005 lux@F1.6 ( Color, 30 IRE)<br>0.0005 lux@F1.6 (B/W, 30 IRE)<br>0 lux (illuminator on) |
| Illumination Distance      | Overview channel: 30 m (98.43 ft) (IR); 30 m (98.43 ft) (warm light)<br>Detail channel: 100 m (328.08 ft) (IR) ; 50 m (164.04 ft) (warm light)                                                                                   |
| Illuminator On/Off Control | Overview channel: Auto; Manual; Off;<br>Detail channel: Zoom Prio; Auto; Manual; Off                                                                                                                                             |
| Illuminator Number         | Overview channel: 2 (IR); 2 (warm light);<br>Detail channel: 2 (IR); 2 (dual light Fusion)                                                                                                                                       |

### Lens

|                      |                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------|
| Focal Length         | Overview channel: 2.8 mm; Detail channel: 5 mm–125 mm                                                     |
| Max. Aperture        | Overview channel: F1.0; Detail channel: F1.6–F3.6                                                         |
| Field of View        | Overview channel: H: 101°; V: 53°; D: 120°<br>Detail channel: H: 51.9°–3.0°; V: 39.7°–2.2°; D: 63.1°–3.7° |
| Optical Zoom         | Overview channel: NA<br>Detail channel: 25x                                                               |
| Focus Control        | Auto; manual; semi-auto                                                                                   |
| Close Focus Distance | Overview channel: 0.2 m (0.66 ft)<br>Detail channel: 0.1 m–0.5 m (0.33 ft–1.64 ft)                        |
| Iris Control         | Overview channel: NA<br>Detail channel: Auto; manual; iris prio                                           |
| Iris Control Type    | DC-Iris                                                                                                   |

|               | Lens                                                                                                                                                                                           | Detect                    | Observe                   | Recognize                | Identify                |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|--------------------------|-------------------------|
| DORI Distance | Overview channel: 2.8 mm                                                                                                                                                                       | 56.0 m<br>( 183.72 ft)    | 22.4 m<br>( 73.49 ft)     | 11.2 m<br>( 36.74 ft)    | 5.6 m<br>( 18.37 ft)    |
|               | Detail channel: W                                                                                                                                                                              | 100.0 m<br>( 328.08 ft)   | 40.0 m<br>( 131.23 ft)    | 20.0 m<br>( 65.62 ft)    | 10.0 m<br>( 32.81 ft)   |
|               | T                                                                                                                                                                                              | 2500.0 m<br>( 8202.00 ft) | 1000.0 m<br>( 3280.80 ft) | 500.0 m<br>( 1640.40 ft) | 250.0 m<br>( 820.20 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. |                           |                           |                          |                         |

### DORI Distance

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       | Overview channel: Pan: 0°; Tilt: +12° to +24° (manual)<br>Detail channel: Pan: 0° to 360° endless; Tilt: –15° to +90°, auto flip 180° |
| Manual Control Speed | Pan: 0.1°/s–200°/s<br>Tilt: 0.1°/s–120°/s                                                                                             |
| Preset Speed         | Pan: 240°/s<br>Tilt: 200°/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) | Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; human alarm classification; linkage tracking                                                                                                                                                                                                                                                                                                    |
| Face Detection             | 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. The supported methods for capturing snapshots are real-time capturing, quality first, and selecting a preferred image among a group of snapshots. |
| Smart Tracking             | Wiztracking;Relay Tracking                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SMD                        | SMD 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 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                                                                                                                                                                                                                                                                                              |
| 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-Blue light warning<br>Flash duration: 5 s–30 s<br>Flash frequency: high, medium, low                                                |
| Sound Warning | Offers 11 sound alarm and 10 custom sound alarms can be imported.<br>Sound can be set from 0%–100%.<br>Play times can be set from 1-10. |

### 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 (2048 × 1536); 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)<br>Detail channel: 1080p (1920 × 1080); 960p (1280 × 960); 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/3M/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: 1080p/1.3M/720p@(1–50/60 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–10,240 kbps<br>H265: 25 kbps–6,144 kbps                                                                                                                                                                                                                                                                                                      |
| Day/Night                | Overview channel: Auto; Color; B/W; Electronic<br>Detail channel: Auto; Color; B/W; Electronic                                                                                                                                                                                                                                                             |
| BLC                      | Yes                                                                                                                                                                                                                                                                                                                                                        |
| WDR                      | Overview channel: DWDR<br>Detail channel: 120 dB                                                                                                                                                                                                                                                                                                           |
| HLC                      | Yes                                                                                                                                                                                                                                                                                                                                                        |
| White Balance            | Overview channel: Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp<br>Detail channel: Auto; indoor; outdoor; tracking; manual; sodium lamp; natural light; street lamp                                                                                                                                                     |
| Gain Control             | Overview channel: Auto; manual; gain prio<br>Detail channel: Auto; manual; gain prio                                                                                                                                                                                                                                                                       |
| Noise Reduction          | Overview channel: 2D NR; 3D NR<br>Detail channel: Auto: 2D NR; 3D NR                                                                                                                                                                                                                                                                                       |
| Motion Detection         | Yes                                                                                                                                                                                                                                                                                                                                                        |
| Region of Interest (RoI) | Yes                                                                                                                                                                                                                                                                                                                                                        |
| Image Stabilization      | Overview channel: NA<br>Detail channel: Electronic Image Stabilization (EIS)                                                                                                                                                                                                                                                                               |
| Defog                    | Overview channel: Electronic<br>Detail channel: Electronic                                                                                                                                                                                                                                                                                                 |
| Digital Zoom             | Overview channel: NA<br>Detail channel: 16×                                                                                                                                                                                                                                                                                                                |
| Image Rotation           | Overview channel: NA<br>Detail channel: 180°                                                                                                                                                                                                                                                                                                               |
| Privacy Masking          | Up to 24 areas can be set, with up to 8 areas in the same view<br>Multiple colors and mosaic available                                                                                                                                                                                                                                                     |
| S/N Ratio                | Overview channel: ≥55 dB<br>Detail channel: ≥55 dB                                                                                                                                                                                                                                                                                                         |
| <b>Audio</b>             |                                                                                                                                                                                                                                                                                                                                                            |
| Audio Compression        | PCM, G.711A, G.711Mu, G.726, MPEG2-Layer2, G.722.1, G.729                                                                                                                                                                                                                                                                                                  |
| Built-in MIC             | Yes, built-in dual Mic                                                                                                                                                                                                                                                                                                                                     |
| Built-in Speaker         | Yes, built-in speaker                                                                                                                                                                                                                                                                                                                                      |

## Network

|                     |                                                                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Network Port        | 1 × RJ-45 (10/100 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;SMB;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 (512 GB); FTP/SFTP; NAS                                                                                                      |
| Browser             | IE 9 and later versions<br>Chrome 41 and later versions<br>Firefox 50 and later versions<br>iOS 10 and later versions                      |
| Management Software | DMSS;DSS Pro                                                                                                                               |
| Mobile Client       | iOS;Android                                                                                                                                |

## Certification

|                |                                                                           |
|----------------|---------------------------------------------------------------------------|
| Certifications | CE: EN 50130-4 EN 55032 EN 55035 EN 61000-3-3 EN IEC 61000-3-2 EN 62368-1 |
|----------------|---------------------------------------------------------------------------|

## Port

|               |                                                                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Audio Input   | 1 channel (LINE IN, bare wire,built-in mic (mutually exclusive) )                                                                       |
| Audio Output  | 1 channel (LINE OUT,bare wire;built-in speaker (mutually exclusive) )                                                                   |
| 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                                                                      |
| Alarm Linkage | Capture; recording; send email; preset; tour; pattern; alarm digital output; audio; warning light                                       |
| Alarm Event   | Motion/tampering detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection |
| Audio I/O     | 1/1                                                                                                                                     |

## Power

|                   |                                                                                                        |
|-------------------|--------------------------------------------------------------------------------------------------------|
| Power Supply      | 12 VDC(± 10%),3 A;PoE+(802.3at)                                                                        |
| Power Consumption | Basic: 14 W<br>Max: 25 W (illuminator + heating glass + Siren and Light Active Deterrence + ICR + PTZ) |
| Power Adapter     | Optional                                                                                               |

## Environment

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

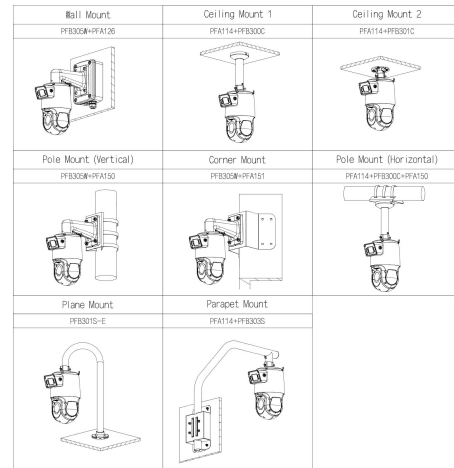
## Structure

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| Casing Material    | ADC12                                                              |
| Product Dimensions | 160.0 mm × 184.4 mm × 304.6 mm (6.30" × 7.26" × 11.99")(L × W × H) |

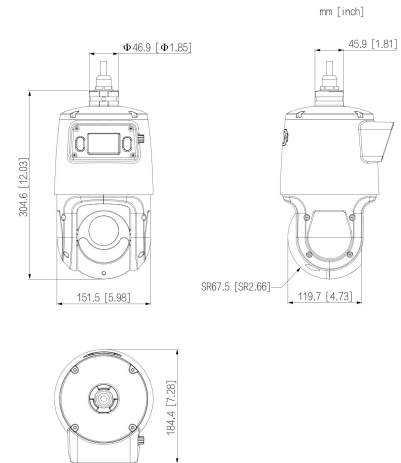
Net Weight 3.41 kg (7.52 lb)

## Ordering Information

| Type               | Model                      | Description                                                                    |
|--------------------|----------------------------|--------------------------------------------------------------------------------|
| Network PTZ Camera | DH-SDT4E225-4F-GB-A-PV1-S2 | 2+4MP 25x Smart Dual Illumination Active Deterrence X-Spans Network PTZ Camera |
| Accessories        | PFB305W                    | Wall Mount Bracket                                                             |
|                    | DH-PFB301S-E               | Plane Mount Bracket                                                            |
|                    | DH-PFB300C                 | Ceiling Mount Bracket                                                          |
|                    | PFA114                     | Mount Adapter                                                                  |
|                    | DH-PFA150                  | Pole Mount Bracket                                                             |
|                    | DH-PFA151                  | Corner Mount Bracket                                                           |
|                    | DH-PFB303S                 | Parapet Mount Bracket                                                          |
|                    | DH-PFA126                  | Water-proof Junction Box                                                       |
|                    | PFM900-E                   | Integrated Mount Tester                                                        |



## Dimensions (mm[inch])



## Accessories

Included:



PFB305W  
Wall Mount Bracket

Optional:



DH-PFB301S-E  
Plane Mount Bracket



DH-PFB300C  
Ceiling Mount Bracket



PFA114  
Mount Adapter



DH-PFA150  
Pole Mount Bracket



DH-PFA151  
Corner Mount Bracket



DH-PFB303S  
Parapet Mount Bracket



DH-PFA126  
Water-proof Junction Box



PFM900-E  
Integrated Mount Tester