

# DH-SDT6E425-8P-MB-A-PV1

8+4MP 25x Smart Dual Illumination Active Deterrence X-Spans Network PTZ Camera



**Xinghan X-Spans**

## Series Overview

The multi-sensor series pushes the bar on PTZ cameras with its enhanced monitoring capabilities captured in its unique lens design. Fitted with an extra lens, it quickly tracks targets while keeping an eye on the monitored area. They also harness the strength of their embedded AI intelligent chip to perform a wide variety of intelligent functions, making them ideal for use in many scenarios.

## Functions

### 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.

### 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.

### 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.

### Smart Tracking

The panoramic camera links with the detail camera to track targets. When the target enters the panoramic area, the detail camera starts to monitor them and tracks their movement by rotating, zooming and focusing the PTZ camera lens. This allows the camera to produce highly detailed images with the movement of targets for security personnel.

- Overview channel: Outputs 180° wide angle splicing image Max. 25/30 fps@8M
- Detail channel: 1/2.8"4Megapixel STARVIS™ CMOS 25x optical zoom Max. 25/30 fps@4M
- IR distance up to 250m
- Warm light distance up to 100m
- Xinghan Large-Scale AI Models
- WizTracking
- Face detection
- Perimeter protection Active deterrence
- Smart dual light +
- Built-in dual mics and a speaker for two-way talk
- Sound and light alarm (red and blue lights)
- Gyroscope Image Stabilization (GIS)
- Acupick
- SMD 4.0
- IP67
- IK10



### 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.

### 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.

### SMD4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms.

## Technical Specification

### Camera

|                            |                                                                                                                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor               | Overview channel: 1/2.8" CMOS; Detail channel: 1/2.8" CMOS                                                                                                                                                                     |
| Pixel                      | Overview channel: 8 MP; Detail channel: 4 MP                                                                                                                                                                                   |
| Max. Resolution            | Overview channel: 4096 (H) × 1860 (V); Detail channel: 2560 (H) × 1440 (V)                                                                                                                                                     |
| ROM                        | Overview channel: 4 GB; Detail channel: 4 GB                                                                                                                                                                                   |
| RAM                        | Overview channel: 2 GB; Detail channel: 2 GB                                                                                                                                                                                   |
| Electronic Shutter Speed   | 1 s–1/30,000 s                                                                                                                                                                                                                 |
| Scanning System            | Progressive                                                                                                                                                                                                                    |
| Min. Illumination          | Overview channel:<br>0.005 lux@F1.4 (Color, 30 IRE)<br>0.0005 lux@F1.4 (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) (white light)<br>Detail channel: 100 m (328.08 ft) (warm light); 250 m (820.21 ft) (IR)                                                                                |
| Illuminator On/Off Control | Overview channel: Manual; Auto; Off<br>Detail channel: Zoom Prio; Manual; Auto; Off                                                                                                                                            |
| Illuminator Number         | Overview channel: 2 (IR light); 2 (White light); Detail channel: 6 (Dual light fusion)                                                                                                                                         |

### Lens

|                      |                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------|
| Focal Length         | Overview channel: 2.8 mm; Detail channel: 5 mm–125 mm                                          |
| Max. Aperture        | Overview channel: F1.4; Detail channel: F1.6-F3.6                                              |
| Field of View        | Overview channel: H: 180°; V: 86°; Detail channel: H: 51.9°–3.0°; V: 39.7°–2.2°; D: 63.1°–3.7° |
| Optical Zoom         | Overview channel: NA; Detail channel: 25x                                                      |
| Focus Control        | Auto; manual; semi-auto                                                                        |
| Close Focus Distance | Overview channel: 0.6 m (1.97 ft); Detail channel: 0.1 m–0.5 m (0.33"–1.64")                   |
| Iris Control         | Overview channel: NA; Detail channel: Auto; manual; iris prio                                  |

|               | 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. 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       | Pan: 0° to 360° endless Tilt: –20° to +90°, auto flip 180° |
| Manual Control Speed | Pan: 0°/s–260°/s; Tilt: 0°/s–140°/s                        |
| Preset Speed         | Pan: 300°/s; 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

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Metadata             | Overview channel: NA<br>Detail channel: 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 alarm classification; linkage tracking                                                                                                                                                                                                                                                                                                                                            |
| Face Detection             | Overview channel: NA<br>Detail channel: 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. |
| Vehicle Density            | Overview channel: Vehicle density; parking upper limit; traffic congestion; vehicle status alarm<br>Detail channel: NA                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction Monitoring | <p>Overview channel: NA</p> <p>Detail channel: Detects 6 helmet colors: Red, orange, yellow, blue, white, and black. An alarm will be triggered when a person is not wearing a helmet or when the color of the helmet that they are wearing does not match the configured color. It also supports compliance detection for work uniforms. Up to 5 work uniform sample libraries can be uploaded, which together can contain up to 1,000 images (the images must be 1080p and in the JPG format). An alarm will be triggered when the similarity between the detected work uniform and the samples in the library is below the set threshold (that is, below the minimum compliance standard for work uniforms). The system supports detecting the attributes of work uniforms such as the color of the uniform, and whether or not the person is wearing a mask and wearing shoe covers. An alarm will be triggered when the target is detected as not meeting the set requirements. It also detects and triggers alarms when only one person is in the construction site, and when no one is present in the detection area such as when a worker leaves their post or an area is left unmanned.</p> |
| Smart Tracking          | WizTracking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Crowd Distribution Map  | <p>Overview channel: Crowd map (Large-Scale AI Models), global crowd density; crowd density in area; people counting in area; crowd status</p> <p>Detail channel: NA</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 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             | <p>Overview channel: NA</p> <p>Detail channel: 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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Active Deterrence

|               |                                                                                                                                   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Light Warning | Red-Blue light warning; Flash duration: 5 s–30 s; Flash frequency: high, medium, low                                              |
| Sound Warning | Offers 11 sound alarm and 10 custom sound alarms can be imported. Sound can be set from 0%–100%. 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           | <p>Overview channel: 8M (4096 × 1860); 2M (2048 × 928); 1080p (1920 × 1080); 720p (1280 × 720); 1024 × 448; D1 (704 × 576/704 × 480);VGA (640 × 480);CIF (352 × 288/352 × 240); Detail channel: 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)</p> |
| Video Frame Rate     | <p>Overview channel: Main stream: 4096 × 1860 @(1–25/30 fps) Sub stream 1: 1024 × 448/D1/VGA/CIF @(1–25/30 fps) Sub stream 2: 2048 × 928/1080p/1.3M/720p @(1–25/30 fps); Detail channel: Main stream: 4M/3M/1080p/1.3M/720p @(1–25/30 fps) Sub stream 1: D1/VGA/CIF @(1–25/30 fps) Sub stream 2: 1080p/1.3M/720p/ @(1–25/30 fps)</p>                                   |

|                          |                                                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit Rate Control         | CBR/VBR                                                                                                                                                                                                |
| Video Bit Rate           | Overview channel: H264: 128 kbps–16,384 kbps H265: 51 kbps–13,312 kbps ; Detail channel: H264: 96 kbps–16,384 kbps H265: 38 kbps–10,240 kbps;                                                          |
| Day/Night                | Overview channel: Auto; Color; B/W; Electronic<br>Detail channel: Auto; Color; B/W; Electronic                                                                                                         |
| BLC                      | Yes                                                                                                                                                                                                    |
| WDR                      | Overview channel: DWDR; 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: Gyroscope Image Stabilization (GIS)                                                                                                                            |
| Defog                    | Overview channel: Electronic<br>Detail channel: Electronic                                                                                                                                             |
| Digital Zoom             | Overview channel: NA; 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                | ≥55 dB                                                                                                                                                                                                 |

## Audio

|                   |                                                           |
|-------------------|-----------------------------------------------------------|
| Audio Compression | PCM, G.711A, G.711Mu, G.726, MPEG2-Layer2, G.722.1, G.729 |
| Built-in MIC      | Yes                                                       |
| Built-in Speaker  | Yes                                                       |

## Network

|                     |                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Network Port        | RJ-45 (100/1,000 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    | ONVIF (Profile S & Profile G & Profile T);CGI;SDK;P2P                                                                                  |
| Streaming Method    | Unicast/Multicast                                                                                                                      |
| User/Host           | 20 (total bandwidth: 64 M)                                                                                                             |
| Storage             | Micro SD card (512 GB); FTP/SFTP; NAS                                                                                                  |
| Browser             | web5.0: IE 9 and later versions; Chrome 41 and later versions; Firefox 52 and later versions; Safari 10 and later versions             |
| Management Software | DMSS;DSS Pro                                                                                                                           |
| Mobile Client       | iOS;Android                                                                                                                            |

## Certification

|                |                                                         |
|----------------|---------------------------------------------------------|
| Certifications | CE:EN55035;EN<br>IEC61000-3-2;EN55032;EN60950;EN62368-1 |
|----------------|---------------------------------------------------------|

## Port

|               |                                                                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| RS-485        | 1 (Bit range: 1200 bps–9600 bps)                                                                                                        |
| 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 (on-off value input: 0–5 VDC)                                                                                                         |
| Alarm Output  | 1 channel                                                                                                                               |
| 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 |

## Power

|                   |                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply      | 36 VDC/2.23 A ± 25%; PoE++(802.3bt)                                                                                                  |
| Power Consumption | Basic power consumption: 19 W<br>Max. power consumption: 40 W (IR + intelligent functions + PTZ + Siren and Light Active Deterrence) |
| 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 |

## Structure

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| Casing Material    | Plastic, aluminum alloy                                            |
| Product Dimensions | 247 mm × 202 mm × 359.8 mm (9.72" × 7.95" × 14.17")<br>(L × W × H) |
| Net Weight         | 5.3 kg (11.68 lb)                                                  |
| Gross Weight       | 7.12 kg (15.70 lb)                                                 |

| Type        | Model      | Description           |
|-------------|------------|-----------------------|
| Accessories | DH-PFA150  | Pole Mount Bracket    |
|             | DH-PFB303S | Parapet Mount Bracket |

## Accessories

### Included:



PFB303W  
Wall Mount Bracket



DC36V/2.23A  
Power Adapter



PFA114  
Mount Adapter

### Optional:



DH-PFA126  
Water-proof Junction Box



DH-PFA150  
Pole Mount Bracket



DH-PFA151  
Corner Mount Bracket



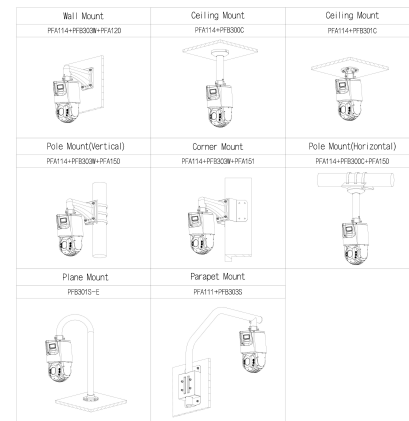
DH-PFB300C  
Ceiling Mount Bracket



DH-PFB301S-E  
Plane Mount Bracket



DH-PFB303S  
Parapet Mount Bracket



## Ordering Information

| Type               | Model                   | Description                                                                             |
|--------------------|-------------------------|-----------------------------------------------------------------------------------------|
| Network PTZ Camera | DH-SDT6E425-8P-MB-A-PV1 | 8+4MP 25x Smart<br>Dual Illumination Active<br>Deterrence X-Spans<br>Network PTZ Camera |
| Accessories        | PFB303W                 | Wall Mount Bracket                                                                      |
|                    | DC36V/2.23A             | Power Adapter                                                                           |
|                    | PFA114                  | Mount Adapter                                                                           |
|                    | DH-PFB301S-E            | Plane Mount Bracket                                                                     |
|                    | DH-PFB300C              | Ceiling Mount Bracket                                                                   |
|                    | DH-PFA151               | Corner Mount Bracket                                                                    |
|                    | DH-PFA126               | Water-proof Junction Box                                                                |

Dimensions (mm[inch])

