

# DH-SD4D225MB-HNR

2MP 25x Smart Dual Light WizSense Network PTZ Camera



WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## Series Overview

With its powerful optical zoom and precise pan-and-tilt capabilities, the PTZ camera offers a comprehensive solution for long-distance outdoor video surveillance. Its smart dual light and AI-ISP technology ensure that images are clear and vibrant both at night and in low-light conditions. This advanced combination significantly improves nighttime surveillance, making it easier to capture critical details that traditional night vision systems might miss.

## 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.

- 1/2.8" STARVIS™ CMOS
- 25× optical zoom
- Starlight technology
- Max. 50/60fps@2M
- IR distance up to 100 m
- Warm light distance up to 50 m
- Perimeter protection
- Face detection
- SMD 4.0
- IP67



### Face Detection

Supports 6 attributes and 8 expressions: Gender, age, glasses, face mask, beard and expressions (anger, sadness, disgust, fear, surprise, calm, happiness, and confusion). It also supports face cutout settings: Face, and single inch photo. Three snapshot methods are also featured: Real-time snapshot, priority snapshot, and quality priority.

### IVS

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

### Auto Tracking

This feature controls the pan, tilt and zoom actions of the camera to automatically track an object in motion, to keep it in view of the camera. Tracking can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

### 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.

### Protection (IP67, TVS 6000 V)

IP67, TVS 6000 V lightning proof, surge protection, and voltage transient protection.

## Technical Specification

### Camera

|                            |   |
|----------------------------|---|
| Image Sensor               | 1/2.8" CMOS   |
| Pixel                      | 2 MP  |
| Max. Resolution            | 1920 (H) × 1080 (V)   |
| ROM                        | 4 GB  |
| RAM                        | 1 GB  |
| Electronic Shutter Speed   | 1 s–1/30,000 s  |
| Scanning System            | Progressive   |
| Min. Illumination          | 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      | 100 m (328.08 ft) (IR);<br>50 m (164.04 ft) (Warm light)                                    |
| Illuminator On/Off Control | Zoom Prio; Manual; Auto; Off  |
| Illuminator Number         | 2 (IR); 2 (Warm light); 2 (Dual-core light)   |

### Lens

|                      |  |
|----------------------|--|
| Focal Length         | 4.8 mm–120 mm                                    |
| Max. Aperture        | F1.6–F3.5  |
| Field of View        | H: 57.48°–3.2°; V: 32.54°–1.81°; D: 65.92°–3.65° |
| Optical Zoom         | 25×  |
| Focus Control        | Auto; semi-auto; manual                          |
| Close Focus Distance | 0.1 m–1.5 m (0.33 ft–4.92 ft)                    |
| Iris Control         | Auto   |

| DORI Distance | Lens  | Detect                    | Observe                  | Recognize                | Identify                |
|---------------|---|---------------------------|--------------------------|--------------------------|-------------------------|
|               | W   | 66.2 m<br>( 217.21 ft)    | 26.5 m<br>( 86.88 ft)    | 13.2 m<br>( 43.44 ft)    | 6.6 m<br>( 21.72 ft)    |
|               | T   | 1655.2 m<br>( 5430.29 ft) | 662.1 m<br>( 2172.12 ft) | 331.0 m<br>( 1086.06 ft) | 165.5 m<br>( 543.03 ft) |
|               | *DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool. |                           |                          |                          |                         |

### PTZ

|                      |  |
|----------------------|--|
| Pan/Tilt Range       | Pan: 0° to 360° endless;<br>Tilt: –15° to +90°, auto flip 180° |
| Manual Control Speed | Pan: 0.1°–200°/s;<br>Tilt: 0.1°–120°/s                         |
| Preset Speed         | Pan: 0.1°–240°/s;<br>Tilt: 0.1°–200°/s                         |
| Preset               | 300  |
| Tour                 | 8  |
| 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             | Auto Tracking 3.0   |
| 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                | It triggers the IVS rule when a target is detected and makes the camera link with the PTZ to rotate to the position of the target and patrol based on its presets   |

### 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               | 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         | 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                | Auto (ICR)/Color/B/W  |
| BLC                      | Yes   |
| WDR                      | 120 dB  |
| HLC                      | Yes   |
| White Balance            | Auto; indoor; outdoor; ATW; 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   |
| Image Stabilization      | Electronic Image Stabilization (EIS)  |
| Defog                    | Electronic  |
| Digital Zoom             | 16×   |

|                 |  |
|-----------------|--|
| Image Rotation  | 180°   |
| Privacy Masking | Up to 24 areas can be set, with up to 8 areas in the same view |
| S/N Ratio       | ≥55 dB   |

## Audio

|                   |  |
|-------------------|--|
| Audio Compression | PCM, G.711A, G.711Mu, G.726, MPEG2-Layer2, G.722.1, G.729, G.723 |
|-------------------|--|

## 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    | ONVIF (Profile S & Profile G & Profile T);CGI;SDK  |
| Streaming Method    | Unicast/Multicast  |
| User/Host           | 20 (total bandwidth: 64 M)   |
| Storage             | Micro SD card (512 GB); FTP/SFTP; NAS  |
| Browser             | web5.0:<br>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: EN55032/EN55024/EN50130-4 |
|----------------|-------------------------------|

## Port

|               |  |
|---------------|--|
| Audio Input   | 1 channel (LINE IN, bare wire);1 channel   |
| Audio Output  | 1 channel (LINE OUT,bare wire);1 channel   |
| Alarm Input   | 2  |
| Alarm Output  | 1 channel  |
| Alarm Linkage | Capture; recording; send email; preset; tour; pattern; alarm digital output  |
| Alarm Event   | Motion/Tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection |
| Alarm I/O     | 2/1  |
| Audio I/O     | 1/1  |

## Power

|                   |  |
|-------------------|--|
| Power Supply      | 12 VDC, 3 A ± 10%<br>PoE (802.3at)   |
| Power Consumption | DC:<br>Basic: 8 W;<br>Max: 20 W (illuminator + PTZ)<br>PoE:<br>Basic: 11 W;<br>Max: 23 W (Illuminator+PTZ) |
| Power Adapter     | Optional   |

## Environment

|                       |   |
|-----------------------|---|
| Operating Temperature | −40 °C to +70 °C (−40 °F to +158 °F)  |
| Operating Humidity    | ≤95%  |
| Protection            | IP67;TVS 6000 V lightning proof; surge protection; voltage transient protection |

## Structure

|                    |                                      |
|--------------------|--------------------------------------|
| Product Dimensions | 270.4 mm × Φ160 mm (10.65" × Φ6.30") |
| Net Weight         | 2.4 kg (5.29 lb)                     |
| Gross Weight       | 3.9 kg (8.60 lb)                     |

## Ordering Information

| Type               | Model            | Description  |
|--------------------|------------------|--|
| Network PTZ Camera | DH-SD4D225MB-HNR | 2MP 25x Smart Dual Light WizSense Network PTZ Camera |
|                    | PFB305W          | Wall Mount Bracket                                   |
|                    | PFA111           | Mount Adapter  |
| Accessories        | DH-PFB300C       | Ceiling Mount Bracket                                |
|                    | DH-PFB301S-E     | Plane Mount Bracket                                  |
|                    | DH-PFA150        | Pole Mount Bracket                                   |
|                    | DH-PFA126        | Water-proof Junction Box                             |
|                    | DH-PFA151        | Corner Mount Bracket                                 |
|                    | DH-PFB303S       | Parapet Mount Bracket                                |
|                    | DH-PFA120        | Junction Box   |
|                    | DC12V/3A         | Power Adapter  |

## Accessories

Included:



PFB305W  
Wall Mount Bracket

Optional:



DH-PFA120  
Junction Box



DH-PFA126  
Water-proof Junction Box



DH-PFA150  
Pole Mount Bracket

Optional:



DH-PFA151  
Corner Mount Bracket



DH-PFB300C  
Ceiling Mount Bracket



DH-PFB301S-E  
Plane Mount Bracket



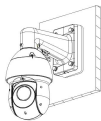


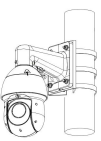
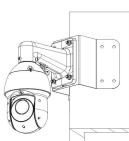
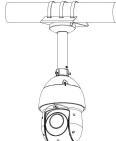

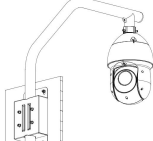
DH-PFB303S  
Parapet Mount Bracket



PFA111  
Mount Adapter



DC12V/3A  
Power Adapter

|  |  |   |
|--|--|---|
| <p>Wall Mount</p> <p>PFB305W+PFA120</p>             | <p>Ceiling Mount</p> <p>PFA111+PFB300C</p>    | <p>Ceiling Mount</p> <p>PFA111+PFB301C</p>                   |
| <p>Pole Mount(Vertical)</p> <p>PFB305W+PFA150</p>  | <p>Corner Mount</p> <p>PFB305W+PFA151</p>    | <p>Pole Mount(Horizontal)</p> <p>PFA111+PFB300C+PFA150</p>  |
| <p>Plane Mount</p> <p>PFB301S-E</p>               | <p>Parapet Mount</p> <p>PFA111+PFB303S</p>  |   |

## Dimensions (mm[inch])

