

# DH-SD6AL445XA-HNR-IR

4MP 45x Starlight IR WizMind Network PTZ Camera



WizMind

- 1/2.8" 4Megapixel CMOS
- Powerful 45x optical zoom
- Starlight technology
- Max. 25/30 fps@4MP
- Deep-learning-based auto tracking and perimeter protection
- Support face detection
- Support Hi-PoE
- SMD PLUS
- IP67



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

## System Overview

Featuring powerful optical zoom and accurate pan/tilt/zoom performance, this camera provides an all-in-one solution for capturing long distance video surveillance for outdoor applications. Together with infrared illumination and Starlight Technology, the camera is the perfect solution for dark, lowlight applications. The series combines a day/night mechanical IR cut filter for the highest image quality in variable lighting conditions during the day, and True WDR for applications with direct sunlight or glare.

## Functions

### Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### Smart Capture

Support human, motor vehicle and non-motor vehicle image capture.

### Perimeter Protection

Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

### Face Detection

6 attributes and 8 expressions: Gender, age, glasses, expressions (anger, sadness, disgust, fear, surprise, calm, happiness and confusion), mask, beard; Face matting setting: face, single inch photo; Three snapshot methods: real-time snapshot, priority snapshot, quality priority.

### Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

### PFA+ Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

### SMD PLUS

With Deep-Learning Algorithm, Dahua SMD PLUS filters the motion detection alarm triggered by non-concerned target and recognizes human and vehicle effectively, sending alarms when human and vehicles intrude.

### Ingress Protection

IP67; TVS 8000V lightning proof; Surge protection.

## Technical Specification

### Camera

|                            |   |
|----------------------------|---|
| Image Sensor               | 1/2.8" CMOS   |
| Pixel                      | 4MP   |
| Max. Resolution            | 2560 (H) × 1440 (V)   |
| ROM                        | 4GB   |
| RAM                        | 1GB   |
| Electronic Shutter Speed   | 1/1 s – 1/30000 s   |
| Scanning System            | Progressive   |
| Min. Illumination          | Color: 0.005Lux@F1.6<br>B/W: 0.0005Lux@F1.6<br>0Lux (IR light on) |
| Illumination Distance      | 300 m (984.25 ft)   |
| Illuminator On/Off Control | Zoom Prio/Manual/SmartIR/Off                                      |
| Illuminator Number         | 7   |
| Wiper                      | Support   |

### Lens

|                      |                                       |                          |                         |                         |
|----------------------|---------------------------------------|--------------------------|-------------------------|-------------------------|
| Focal Length         | 3.95 mm–177.7 mm                      |                          |                         |                         |
| Max. Aperture        | F1.6–F4.9                             |                          |                         |                         |
| Field of View        | H: 70.3°–1.8°; V: 37°–1°; D: 69.3°–2° |                          |                         |                         |
| Optical Zoom         | 45x                                   |                          |                         |                         |
| Focus Control        | Auto/Semi-Auto/Manual                 |                          |                         |                         |
| Close Focus Distance | 0.01 m–3 m (0.03 ft–9.84 ft)          |                          |                         |                         |
| Iris Control         | Auto                                  |                          |                         |                         |
| DORI Distance        | Detect                                | Observe                  | Recognize               | Identify                |
|                      | 3554 m<br>(11660.10 ft)               | 1421.6 m<br>(4664.04 ft) | 710.8 m<br>(2332.02 ft) | 355.4 m<br>(1166.01 ft) |

### PTZ

|                      |  |
|----------------------|--|
| Pan/Tilt Range       | Pan: 0°–360° endless<br>Tilt: –20°+90°, auto flip 180° |
| Manual Control Speed | Pan: 0.1°–200°/s<br>Tilt: 0.1°–120°/s                  |
| Preset Speed         | Pan: 240°/s; Tilt: 200°/s                              |
| Presets              | 300  |
| Tour                 | 8 (up to 32 presets per tour)                          |
| Pattern              | 5  |
| Scan                 | 5  |
| Power-off Memory     | Support  |
| Idle Motion          | Preset/Tour/Pattern/Scanning                           |
| Protocol             | DH-SD<br>Pelco-P/D (auto recognition)                  |

## General Intelligence

|               |  |
|---------------|--|
| Event Trigger | Motion detection, video tampering, scene changing, network disconnection, IP address conflict, illegal access, and storage anomaly |
| IVS           | Object abandoned/missing   |

## Artificial Intelligence

|                      |  |
|----------------------|--|
| Smart Capture        | Support human, motor vehicle and non-motor vehicle image capture.  |
| Perimeter Protection | Tripwire and intrusion. Support alarm triggering by target types (human and vehicle). Support filtering false alarms caused by animals, rustling leaves, bright lights, etc. |
| Face Detection       | Support  |
| SMD PLUS             | Support  |

## Video

|                          |  |
|--------------------------|--|
| Compression              | H.265; H.264B; H.264M; H.264H; MJPEG; MPEG4; H.265+; H.264+; MJPEG (sub stream)  |
| Streaming Capability     | 3 streams  |
| Resolution               | 4M (2560 × 1440); 3M (2048 × 1536); 1080P (1920 × 1080); 720P (1280 × 960); D1 (704 × 576/704 × 480); CIF (352 × 288/352 × 240)                                |
| Frame Rate               | Main stream: 4M/3M (1–25/30 fps), 1080P/1.3M/720P (1–25/30 fps)<br>Sub stream 1: D1/CIF (1–25/30 fps)<br>Sub stream 2: 1080P (1–25/30 fps), 720P (1–25/30 fps) |
| Bit Rate Control         | Variable/Constant  |
| Bit Rate                 | Main stream with default resolution:<br>H.264: 3 Kbps–20480 Kbps<br>H.265: 3 Kbps–20480 Kbps   |
| Day/Night                | Auto (ICR)/Color/B/W   |
| BLC                      | Support  |
| WDR                      | 120dB  |
| HLC                      | Support  |
| White Balance            | Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/<br>Natural light/Street lamp  |
| Gain Control             | Auto/Manual  |
| Noise Reduction          | 2D/3D  |
| Motion Detection         | Support  |
| Region of Interest (RoI) | Support  |
| Image Stabilization      | Electronic   |
| Defog                    | Digital  |
| Digital Zoom             | 16x  |
| Flip                     | 180°   |
| Privacy Masking          | Up to 24 areas, and up to 8 areas in the same view   |
| Audio                    |  |
| Compression              | G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G.722.1; G.729; G.723   |

**Network**

|                     |   |
|---------------------|---|
| Ethernet            | RJ-45 (10/100Base-T)  |
| Protocol            | IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMPv1/v2c/v3 (MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP |
| Interoperability    | ONVIF Profile S&G&T; CGI  |
| Streaming Method    | Unicast/Multicast   |
| User/Host           | 19  |
| Storage             | FTP; Micro SD card (256G); P2P  |
| Browser             | IE7 and later versions<br>Chrome 42 and earlier versions<br>Firefox 52 and earlier versions<br>Safari   |
| Management Software | Smart PSS; DSS; DMSS; Easy4ip; IVSS   |
| Mobile Phone        | IOS; Android  |

**Certification**

|                |   |
|----------------|---|
| Certifications | CE: EN62368-1; EN55032; EN61000-3-2; EN61000-3-3; EN55024; EN55035; EN50130-4<br>FCC: 47 CFR FCC Part15, SubpartB, ClassA; ANSI C63.4: 2014 |
|----------------|---|

**Port**

|              |  |
|--------------|--|
| RS-485       | 1 (Baud rate range: 1200 bps~115200 bps) |
| Audio Input  | 1  |
| Audio Output | 1  |
| Alarm I/O    | 7/2                                      |

**Power**

|                   |  |
|-------------------|--|
| Power Supply      | DC36V/2.23A; HI-PoE  |
| Power Consumption | Basic: 20W<br>Max.: 36W (IR light and PTZ on at minimum voltage) |

**Environment**

|                       |   |
|-----------------------|---|
| Operating Temperature | -40°C ~ 70°C (-40°F to 158°F)                     |
| Operating Humidity    | ≤95%  |
| Protection            | IP67; TVS 8000V lightning proof; Surge protection |

**Structure**

|              |                                    |
|--------------|------------------------------------|
| Casing       | Metal                              |
| Dimensions   | 382 mm × Φ240 mm (15.04" x Φ9.45") |
| Net Weight   | 6.5 kg (14.33 lb)                  |
| Gross Weight | 8.9 kg (19.62 lb)                  |

**Ordering Information**

| Type                   | Model                 | Description  |
|------------------------|-----------------------|--|
| 4MP WizMind PTZ Camera | DH-SD6AL445XA-HNR-IR  | 4MP 45x Starlight IR WizMind Network PTZ Camera, WDR, PAL  |
|                        | DH-SD6AL445XAN-HNR-IR | 4MP 45x Starlight IR WizMind Network PTZ Camera, WDR, NTSC |
|                        | SD6AL445XA-HNR-IR     | 4MP 45x Starlight IR WizMind Network PTZ Camera, WDR, PAL  |
|                        | SD6AL445XAN-HNR-IR    | 4MP 45x Starlight IR WizMind Network PTZ Camera, WDR, NTSC |
| Accessories            | PFB303W               | Wall Mount Bracket   |
|                        | PFA111                | Mount Adapter  |
|                        | DC36V/2.23A           | Power Adapter  |
|                        | PFA140                | Power Box  |
|                        | PFB300C               | Ceiling Mount Bracket                                      |
|                        | PFA120                | Junction Box   |
|                        | PFA150                | Pole Mount Bracket   |
|                        | PFA151                | Corner Mount Bracket                                       |
|                        | PFB303S               | Parapet Mount Bracket                                      |

**Accessories**

**Included:**



PFB303W  
Wall Mount Bracket



PFA111  
Mount Adapter



DC36V/2.23A  
Power Adapter

**Optional:**



PFA140  
Power Box



PFB300C  
Ceiling Mount Bracket



PFA120  
Junction Box





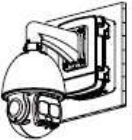

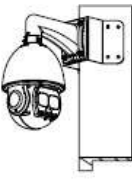

PFA150  
Pole Mount Bracket



PFA151  
Corner Mount Bracket



PFB303S  
Parapet Mount Bracket

|  |   |
|--|---|
| <b>Ceiling Mount</b><br>PFA111 + PFB300C<br>            | <b>Junction Mount</b><br>PFA111 + PFB303W + PFA120<br> |
| <b>Power Box Mount</b><br>PFA111 + PFB303W + PFA140<br> | <b>Pole Mount</b><br>PFA111 + PFB303W + PFA150<br>     |
| <b>Corner Mount</b><br>PFA111 + PFB303W + PFA151<br>   | <b>Parapet Mount</b><br>PFA111+ PFB303S<br>           |

**Dimensions (mm[inch])**

