

# DH-SD6AE433XA-HNR

4MP 33x Starlight+ IR WizMind Network PTZ Camera



**WizMind**

- 1/1.8" 4Megapixel CMOS
- Powerful 33x optical zoom
- Starlight+ technology
- IR distance up to 200m
- Deep-learning-based auto tracking and perimeter protection
- Support Hi-PoE
- IP67, IK10
- SMD Plus
- Face detection



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

### Perimeter Protection

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

### 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 0.001 Lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### 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 vehicle intrude.

### 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.

### Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action 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.

### Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared with standard H.265 video compression.

## Technical Specification

### Camera

|                            |  |
|----------------------------|--|
| Image Sensor               | 1/1.8" CMOS  |
| Pixel                      | 4MP  |
| Max. Resolution            | 2560 (H) × 1440 (V)  |
| ROM                        | 4 GB   |
| RAM                        | 1 GB   |
| Electronic Shutter Speed   | 1/1 s–1/30000 s  |
| Scanning System            | Progressive  |
| Min. Illumination          | Color: 0.001 Lux@F1.5<br>B/W: 0.0001 Lux@F1.5<br>0 Lux (IR on) |
| Illumination Distance      | 200m (656ft)   |
| Illuminator On/Off Control | Zoom Prio/Manual/SmartIR/Off                                   |
| Illuminator Number         | 10 IR lights   |

### Lens

|                      |   |                        |                       |                      |
|----------------------|---|------------------------|-----------------------|----------------------|
| Focal Length         | 5.8 mm–191.4 mm                             |                        |                       |                      |
| Max. Aperture        | F1.5–F4.8                                   |                        |                       |                      |
| Field of View        | H: 60.1°–3.1°; V: 35.3°–1.8°; D: 67.9°–3.6° |                        |                       |                      |
| Optical Zoom         | 33x   |                        |                       |                      |
| Focus Control        | Auto/Semi-Auto/Manual                       |                        |                       |                      |
| Close Focus Distance | 0.1 m–1 m (0.33 ft–3.28 ft)                 |                        |                       |                      |
| Iris Control         | Auto/Manual/Fixed                           |                        |                       |                      |
| DORI Distance        | Detect                                      | Observe                | Recognize             | Identify             |
|                      | 2640 m<br>(8661.42 ft)                      | 1043 m<br>(3421.92 ft) | 528 m<br>(1732.28 ft) | 264 m<br>(866.14 ft) |

### PTZ

|                      |  |
|----------------------|--|
| Pan/Tilt Range       | Pan: 0°–360° endless<br>Tilt: -20° 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; Tilt: 200°/s                                  |
| Presets              | 300  |
| Tour                 | 8 tours (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  |
| Auto Tracking        | Support  |

### Video

|                          |  |
|--------------------------|--|
| Compression              | H.265; H.264B; H.264M; MJPEG (sub stream); H.264H; H.265+; H.264+  |
| Streaming Capability     | 3 streams  |
| Resolution               | 4M (2560 × 1440); 3M (2048 × 1536); 1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352 × 288) |
| Frame Rate               | Main stream: 4M/3M/1080P/1.3M/720P (1–25/30 fps)<br>Sub stream 1: D1/CIF (1–25/30 fps)<br>Sub stream 2: 720P (1–25/30 fps)     |
| Bit Rate Control         | Variable/Constant  |
| Bit Rate                 | H.264: 3 Kbps–20480 Kbps<br>H.265: 3 Kbps–20480 Kbps   |
| Day/Night                | Auto (ICR)/Color/B/W   |
| BLC                      | Support  |
| WDR                      | 120 dB   |
| HLC                      | Support  |
| White Balance            | Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp  |
| Gain Control             | Auto/Manual  |
| Noise Reduction          | 2D/3D  |
| Motion Detection         | Support  |
| Region of Interest (RoI) | Support  |
| Image Stabilization      | Electronic   |
| Defog                    | Electronic   |
| Digital Zoom             | 16x  |
| Flip                     | 180°   |
| Privacy Masking          | Up to 24 areas, and up to 8 areas in the same view   |
| S/N Ratio                | ≥ 55 dB  |

### Audio

|             |   |
|-------------|---|
| Compression | G.711a; G.711Mu; G.726; AAC; MPEG2-Layer2; G722.1; G729; G723 |
|-------------|---|

### Network

|          |                      |
|----------|----------------------|
| Ethernet | RJ-45 (10/100Base-T) |
|----------|----------------------|

|                     |   |
|---------------------|---|
| Protocol            | IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMP; DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; SNMPv1/v2c/v3 (MIB-2); RTCP |
| Interoperability    | ONVIF Profile S&G&T, API  |
| Streaming Method    | Unicast/Multicast   |
| User/Host           | 20 (total bandwidth 64 MB)  |
| Storage             | NAS (Network Attached Storage), Local PC for instant recording, Micro SD card 256GB   |
| 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: EN55032/EN55024/EN50130-4<br>FCC: Part15 subpartB, ANSI C63.4-2014 |
|----------------|--|

**Port**

|           |     |
|-----------|-----|
| RS-485    | 1   |
| Audio I/O | 1/1 |
| Alarm I/O | 7/2 |

**Power**

|                   |                                |
|-------------------|--------------------------------|
| Power Supply      | AC24V/3A(±25%), Hi-PoE         |
| Power Consumption | Basic: 20W<br>Max: 32W (IR on) |

**Environment**

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

**Structure**

|              |                                    |
|--------------|------------------------------------|
| Dimensions   | 382 mm × Φ240 mm (15.04" × Φ9.45") |
| Net Weight   | 5.8 kg (12.79 lb)                  |
| Gross Weight | 10.5 kg (23.15 lb)                 |

**Ordering Information**

| Type                   | Model              | Description  |
|------------------------|--------------------|--|
| 4MP WizMind PTZ Camera | DH-SD6AE433XA-HNR  | 4MP 33x Starlight+ IR WizMind Network PTZ Camera, PAL  |
|                        | DH-SD6AE433XAN-HNR | 4MP 33x Starlight+ IR WizMind Network PTZ Camera, NTSC |
|                        | SD6AE433XA-HNR     | 4MP 33x Starlight+ IR WizMind Network PTZ Camera, PAL  |
|                        | SD6AE433XAN-HNR    | 4MP 33x Starlight+ IR WizMind Network PTZ Camera, NTSC |
| Accessories            | 24V AC/3A          | Power Adapter  |
|                        | PFB303W            | Wall Mount Bracket                                     |
|                        | PFA111             | Mount 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



24V AC/3A  
Power Adapter

Optional:



PFA140  
Power Box



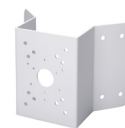
PFB300C  
Ceiling Mount Bracket



PFA120  
Junction Box





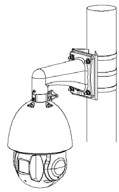

PFA150  
Pole Mount Bracket



PFA151  
Corner Mount Bracket



PFB303S  
Parapet Mount Bracket

|   |   |
|---|---|
| <b>Wall Mount</b><br>PFA111+PFB303W   | <b>Ceiling Mount</b><br>PFA111+PFB300C  |
|  |  |
| <b>Pole Mount(Vertical)</b><br>PFA111+PFB303W+PFA150                              | <b>Pole Mount(Horizontal)</b><br>PFA111+PFB300C+PFA150                            |
|  |  |

**Dimensions (mm[inch])**

