

# DH-SD6AL433XA-HNR

4MP 33x Starlight+ Laser WizMind Network PTZ Camera



**WizMind**

- 1/1.8" 4Megapixel CMOS
- Powerful 33x optical zoom
- Starlight+ technology
- Max. 25/30 fps@4M
- Deep-learning-based auto tracking and perimeter protection
- Support Hi-PoE
- Laser distance up to 550 m
- 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

### 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–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.001 Lux@F1.5 B/W: 0.0001 Lux@F1.5 0 Lux (laser on)
Illumination Distance	550 m (1804.46 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR/Off
Illuminator Number	Laser Module
Wiper	Support

### 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 (8661.42 ft)	1043 m (3421.92 ft)	528 m (1732.28 ft)	264 m (866.14 ft)

### PTZ

Pan/Tilt Range	Pan: 0°–360° endless Tilt: -20° to +90°, auto flip 180°
Manual Control Speed	Pan: 0.1°/s–200°/s 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 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.
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IVS	Object Abandoned/Missing
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### 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) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 720p (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 3 Kbps–20480 Kbps 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
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### Network

Ethernet	RJ-45 (10/100Base-T)
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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; RTMP
Interoperability	ONVIF Profile S&G&T; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth 64 MB)
Storage	FTP; Micro SD card (256 GB); NAS
Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS
Mobile Phone	IOS, Android
Certification	
Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014
Port	
RS-485	1
Audio I/O	1 (Line in; bare wire)/1 (Line out; bare wire)
Alarm I/O	7/2
Power	
Power Supply	DC 36 V/2.23 A ± 25%; Hi-PoE
Power Consumption	Basic: 20 W Max: 32 W (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-SD6AL433XA-HNR	4MP 33x Starlight+ Laser WizMind Network PTZ Camera
	DH-SD6AL433XAN-HNR	4MP 33x Starlight+ Laser WizMind Network PTZ Camera
	SD6AL433XA-HNR	4MP 33x Starlight+ Laser WizMind Network PTZ Camera
	SD6AL433XAN-HNR	4MP 33x Starlight+ Laser WizMind Network PTZ Camera
Accessories	DC 36 V/2.23 A	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



DC 36 V/2.23 A  
Power Adapter

Optional:



PFA140  
Power Box



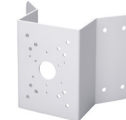
PFB300C  
Ceiling Mount Bracket



PFA120  
Junction Box



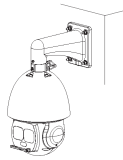

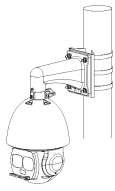
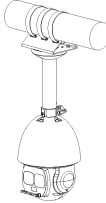
PFA150  
Pole Mount Bracket



PFA151  
Corner Mount Bracket



PFB303S  
Parapet Mount Bracket

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

**Dimensions (mm[inch])**

