

# DH-SD6AE233XA-HNR

2MP 33x Starlight IR PTZ AI Network Camera



- 1/1.8" 2Megapixel CMOS
- Powerful 33x optical zoom
- Starlight technology
- Max. 50/60fps@1080P
- Deep-learning-based auto tracking and perimeter protection
- Support Hi-PoE
- IR distance up to 200m
- IP67 , IK10



AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and more devices. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

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

### 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.

### 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.

### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. The camera complies with the IK10 Vandal Resistance impact rating. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

### Protection

The camera allows for  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

### Technical Specification

#### Camera

Image Sensor	1/1.8" CMOS
Effective Pixels	1920(H) x 1080(V), 2 Megapixels
Scanning System	Progressive
Electronic Shutter Speed	1/1s~1/30,000s
Minimum Illumination	Color: 0.001Lux@F1.5; B/W: 0.0001Lux@F1.5; 0Lux@F1.5 (IR on)
IR Distance	Distance up to 200m (656ft)
IR On/Off Control	Auto/Manual
IR LEDs	10

#### Lens

Focal Length	5.8mm~191.4mm
Max. Aperture	F1.5~ F4.8
Angle of View	H: 60.1° ~ 3.2° V: 35.3° ~ 1.8°; D: 67.9° ~ 3.7°
Optical Zoom	33x
Focus Control	Auto/Manual
Iris Control	Auto/Manual
Close Focus Distance	100mm~ 1000mm

#### DORI Distance

\*Note: The DORI distance is a “general proximity” of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.

Detect	Observe	Recognize	Identify
1655m(5430ft)	622m(2041ft)	331m(1086ft)	165m(541ft)

#### PTZ

Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: -20° ~ 90°, auto flip 180°
Manual Control Speed	Pan: 0.1° ~200° /s; Tilt: 0.1° ~120° /s
Preset Speed	Pan: 240° /s; Tilt: 200° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour(up to 32 preset per tour), Auto Pan, 5 Auto Scan
Speed Setup	Human-oriented focal Length/ Speed adaptation
Power up Action	Auto restore to previous PTZ and lens status after power failure
Idle Motion	Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period
Protocol	DH-SD, Pelco-P/D (Auto recognition)

#### Artificial Intelligence

Perimeter Protection	Tripwire, Intrusion. Support alarm triggering by target types(human and vehicle) Filtering out false alarms caused by animals, rustling leaves, bright lights, etc
Auto Tracking	Support
Video Structuralization	Support human, motor vehicle and non-motor vehicle image capture

#### General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing

#### Video

Compression	H.265+/H.265/H.264+/H.264/MJPEG(Sub Stream)
Streaming Capability	3 Streams
Resolution	1080P(1920×1080)/1.3M(1280×960)/720P(1280×720)/D1(704×576/ 704×480)/CIF(352×288/352×240)
Frame Rate	Main stream: 1080P/1.3M/ 720P(1~50/60fps)
	Sub stream1: D1/CIF(1 ~ 25/30fps)
	Sub stream2: 1080P/1.3M/720P/D1/CIF (1~25/30fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 3Kbps ~ 2048Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR(120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto / Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

#### Audio

Compression	G.711a; G.711Mu; AAC; G.722.1; G.726; MPEG2-Layer2; G.729
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#### Network

Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, RTCP, RTSP, RTP, SMTP, NTP, DHCP, DNS,PPPOE,DDNS,FTP, IP Filter,QoS,Bonjour,802.1x
Interoperability	ONVIF Profile S&G, API
Streaming Method	Unicast / Multicast
Max. User Access	19 users
Edge Storage	NAS (Network Attached Storage),Local PC for instant recording, Micro SD card 256GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS, DMSS
Smart Phone	iOS, Android

**Certifications**

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014
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**Port**

RS485	1
Audio I/O	1/1
Alarm I/O	7/2

**Electrical**

Power Supply	AC24V/3A(±25%), Hi-PoE
Power Consumption	20W, 32W (IR on)

**Environmental**

Operating Conditions	-40°C ~ 70°C (-40°F ~ +158°F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

**Construction**

Casing	Metal
Dimensions	Φ240(mm) x 382 (mm)
Net Weight	6.75kg(14.88lb)
Gross Weight	10.1kg(22.27lb)

**Ordering Information**

Type	Part Number	Description
2MP PTZ Camera	DH-SD6AE233XA-HNR	2MP 33x Starlight IR PTZ AI Network Camera, WDR, PAL
	DH-SD6AE233XAN-HNR	2MP 33x Starlight IR PTZ AI Network Camera, WDR, NTSC
	SD6AE233XA-HNR	2MP 33x Starlight IR PTZ AI Network Camera, WDR, PAL
	SD6AE233XAN-HNR	2MP 33x Starlight IR PTZ AI Network Camera, WDR, NTSC
Accessories	PFB303W	Wall Mount
	PFA111	Mount Adapter
	AC24V/3A	Power Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount
	PFA120	Junction Box
	PFA150	Pole Mount
	PFA151	Corner Mount
PFB303S	Parapet Mount	

**Accessories**

Included:



PFB303W  
Wall Mount



PFA111  
Mount Adapter



AC24V/3A  
Power Adapter

Optional:



PFA140  
Power Box



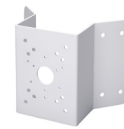
PFB300C  
Ceiling Mount



PFA120  
Junction Box



PFA150  
Pole Mount



PFA151  
Corner Mount



PFB303S  
Parapet Mount

Ceiling Mount	Junction Mount
PFA111 + PFB300C	PFA111 + PFB303W + PFA120
Power Box Mount	Pole Mount
PFA111 + PFB303W + PFA140	PFA111 + PFB303W + PFA150
Corner Mount	Parapet Mount
PFA111 + PFB303W + PFA151	PFA111+ PFB303S

Dimensions (mm)

