alhua TECHNOLOGY

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

| Metadata | H.265 | WDR | ICR D/N | IP67 | 0.005Lux | Hi-PoE | False Alarm Filter |

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.

Onvif

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 B/W: 0.0005Lux@F1.6 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 (11660.10 ft)	1421.6 m (4664.04 ft)	710.8 m (2332.02 ft)	355.4 m (1166.01 ft)

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
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 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) Sub stream 1: D1/CIF (1–25/30 fps) 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: H.264: 3 Kbps–20480 Kbps 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/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 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: EN62368-1; EN55032; EN61000-3-2; EN61000-3-3; EN55024; EN55035; EN50130-4 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 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
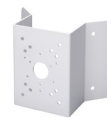Power Adapter

Optional:

PFA140
Power Box

PFB300C
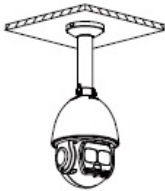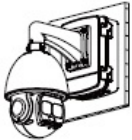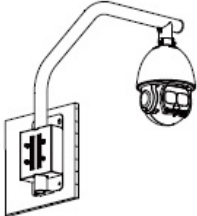Ceiling Mount Bracket

PFA120
Junction Box

PFA150
Pole Mount Bracket

PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

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[inch])

50.0 [1.

174.0 [6.85]

382.0 [15.04]

213.6 [8.41]

Φ239.8 [9.44]