DH-SD5A245XA-HNR

2MP 45x Starlight IR WizSense Network PTZ Camera

WizSense

- 1/2.8" 2Megapixel STARVIS™ CMOS
- 45x optical zoom
- Starlight technology
- Max. 50/60 fps@1080P
- IR distance up to 150 m
- Auto-tracking
- Perimeter protection
- Face detection
- SMD Plus

| Video Metadata | Perimeter Protection | Face Detection | H.265 | WDR | Starlight | IP67 |

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

System Overview

Dahua WizSense is a series of AI products and complete end-to-end solution based on deep-learning. The product focuses on human and vehicle, benefiting everyone with intelligent functions, simple configuration and inclusive products.

Functions

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables 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 0.005 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.

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. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating make it suitable for demanding outdoor applications.

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 to standard H.265 video compression.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	2MP
Max. Resolution	1920 (H) x 1080 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.6 B/W: 0.0005 Lux@F1.6 0 Lux (IR on)
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR
Illuminator Number	4

Lens

Focal Length	3.95 mm–177.7 mm
Max. Aperture	F1.6–F4.95
Field of View	H: 65.7°–1.9°; V: 39.4°–1.1°; D: 73.1°–2.1°
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/Manual

DORI Distance	Detect	Observe	Recognize	Identify
	2451.7 m (8043.64 ft)	972.9 m (3191.93 ft)	490.3 m (1608.60 ft)	245.2 m (804.46 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360°; Tilt: -15°–+90°
Manual Control Speed	Pan: 0.1°/s–240°/s; Tilt: 0.1°/s–120°/s
Preset Speed	Pan: 240°/s; Tilt: 200°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Speed Adjustment	Support
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.
SMD Plus	Support
Auto Tracking	Support

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 (1–50/60 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080P/1.3M/720P (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 3 Kbps–8192 Kbps H.265: 3 Kbps–8192 Kbps
Day/Night	Support
BLC	Support
WDR	120 dB
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural/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	0°/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; G.722.1; G.723; G.729; PCM; MPEG2-Layer2

Network

Ethernet	1 RJ-45 Port (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; QoS; FTP; SMTP; UPnP; SNMP v1/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	20 (total bandwidth 64 MB)
Storage	FTP; Micro SD card (256 GB); 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

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

Port

Audio Input	1 (LINE IN; bare wire)
Audio Output	1 (LINE OUT; bare wire)
Two-way Audio	Support
Alarm I/O	2/1

Power

Power Supply	DC 24V/2.5A ± 25%; PoE+ (802.3at)
Power Consumption	11W 20W (IR light on)

Environment

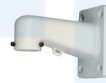|	
Operating Temperature	−40°C to +70°C (−40°F to +158°F)
Operating Humidity	≤ 95%RH
Protection	IP67; IK10; TVS 6000V lightning protection; surge protection; voltage transient protection

Structure

Casing	Metal
Dimensions	Φ190 mm × 332 mm (Φ7.48" × 13.07")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8 kg (17.64 lb)

Ordering Information

Type	Model	Description
2M WizSense PTZ Camera	DH-SD5A245XA-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera, PAL
	DH-SD5A245XAN-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera, NTSC
	SD5A245XA-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera, PAL
	SD5A245XAN-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera, NTSC
Accessories	DC24V/2.5A	Power Adapter
	PFB305W	Wall Mount Bracket
	PFA111	Mount Adapter
	PFB300C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFA120	Junction Box
	PFA140	Power Box
	PFA151	Corner Mount Bracket
	PFB303S	Parapet Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

Optional:

PFA111
Mount Adapter

PFB300C
Ceiling Mount Bracket

PFA150
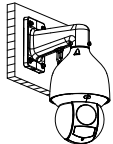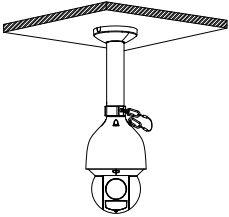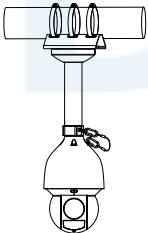Pole Mount Bracket

PFA120
Junction Box

PFA140
Power Box

PFA151
Corner Mount Bracket

PFB303S
Parapet Mount Bracket

DC24V/2.5A
Power Adapter

Wall Mount	Ceiling Mount
PFB305W	PFA111+PFB300C
Pole Mount(Vertical)	Pole Mount(Horizontal)
PFA150+PFB305W	PFA150+PFA111+PFB300C

Dimensions (mm[inch])

Φ45.0 [Φ1.77]

331.3 [13.04]

306.3 [12.06]

Φ190.0 [Φ7.48]

SΦ154.0 [SΦ6.06]