DH-SD5A232XA-HNR

2MP 32x Starlight IR WizSense Network PTZ Camera



- 1/2.8" 2Megapixel STARVIS™ CMOS
- Powerful 32x optical zoom
- Max. 50/60 fps@1080P
- IR distance up to 150 m
- Deep-learning-based auto tracking and perimeter protection
- SMD PLUS
- PoE+
- IP67, IK10
- Face Detection



WizSense

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

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 system to act secondary recognition for the targets to improve 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.

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.

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" STARVIS™ 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@F1.35 B/W: 0.0005 Lux@F1.35 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	4.9 mm–156 mm			
Max. Aperture	F1.35–F4.4			
Field of View	H: 62.8°–2.2°; V: 36.7°–1.3°; D: 69.2°–2.6°			
Optical Zoom	32x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	1 m–1.5 m (3.28 ft–4.92 ft)			
Iris Control	Auto/Manual/Fixed			
DORI Distance	Detect	Observe	Recognize	Identify
	2152 m (7060.37 ft)	850 m (2788.71 ft)	430 m (1410.76 ft)	215 m (705.38 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360° endless Tilt: –15° to +90°, auto flip 180
Manual Control Speed	Pan: 0.1°/s–300°/s Tilt: 0.1°/s–200°/s
Preset Speed	Pan: 400°/s Tilt: 300°/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)

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
Auto Tracking	Support
SMD PLUS	Support

Video

Compression	H.265; H.264B; H.264M; H.264H; MJPEG (Sub Stream); H.265+; H.264+
Streaming Capability	3 streams
Resolution	1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352×288)
Frame Rate	Main stream: 1080P/1.3M/720P (1–50/60 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

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	20 (total bandwidth 64M)
Storage	FTP; Micro SD card (256G); 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 UL: UL60950-1+CAN/CSA C22.2,No.60950-1

Port

Alarm I/O	2/1
Two-way Audio	Support
Alarm I/O	2/1

Power

Power Supply	AC 24V/3A ± 25% (standard) PoE+ (802.3at)
Power Consumption	Basic: 12W Max: 20W

Environment

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

Structure

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
2MP WizSense PTZ Camera	DH-SD5A232XA-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	DH-SD5A232XAN-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A232XA-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
	SD5A232XAN-HNR	2MP 32x Starlight IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	AC24V/3A	Power Adapter
	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:



PFB305W
Wall Mount Bracket



AC24V/3A
Power Adapter

Optional:



PFA111
Mount Adapter



PFA140
Power Box



PFB300C
Ceiling Mount Bracket



PFA120
Junction Box



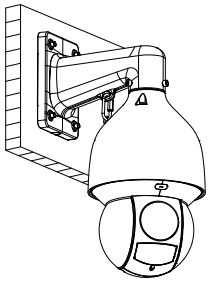
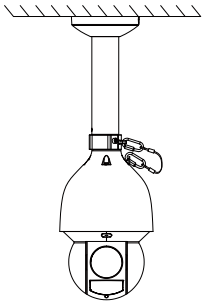
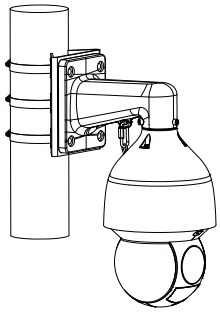
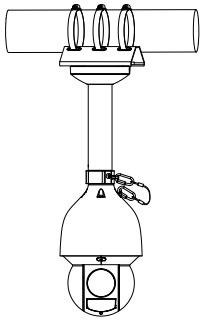
PFA150
Pole Mount Bracket



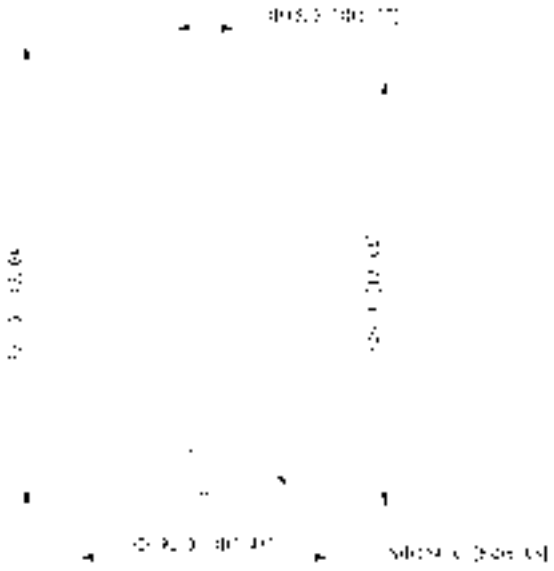
PFA151
Corner Mount Bracket



PFB303S
Parapet Mount Bracket

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

Dimensions (mm[inch])



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