DH-SD5A245GB-HNR

2MP 45x Starlight IR Network PTZ Camera

Wiz Sense

- 1/2.8" 2Megapixel STARVIS™ CMOS.
- 45x optical zoom.
- Starlight technology.
- Max. 50/60fps@1080P.
- IR distance up to 150 m.
- Auto-tracking 3.0.
- Perimeter protection.
- Face detection.
- SMD 4.0.
- IP67, IK10.

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.

Starlight · Perimeter Protection · Face Detection · Auto Tracking · IP67

System Overview

Unique and elegant, the black semicircular sphere discreetly monitors from a distance without drawing undue attention to itself. It has a powerful optical zoom, and accurate pan, tilt and zoom capabilities, providing an all-in-one solution for long distance video surveillance of outdoor scenes. Together with infrared illumination and Starlight Technology, the camera is a great solution for dark, low light conditions. The series combines a day and night mechanical IR cut filter to produce high quality images in variable lighting conditions during the day, and True WDR for locations with direct sunlight and glare.

Functions

Starlight Technology

With advanced image processing technology and optical technology, Dahua Starlight technology can provide clear colorful video in the environment of low illuminance. It widely applies to various environments of low illuminance.

Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

Face Detection

Supports 6 attributes and 8 expressions: Gender, age, glasses, face mask, beard and expressions (anger, sadness, disgust, fear, surprise, calm, happiness, and confusion). It also supports face cutout settings: Face, and single inch photo. Three snapshot methods are also featured: Real-time snapshot, priority snapshot, and quality priority.

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.

Protection (IP67, TVS 6000 V)

IP67, TVS 6000 V lightning proof, surge protection, and voltage transient protection.

SMD 4.0

Dahua Smart Motion Detection technology works with intelligent algorithms to classify targets that trigger motion detection alarms. It filters out objects that are not targets, such as small and large animals, to avoid triggering false alarms. With an AI NVR, Quick Pick technology becomes available, allowing you to easily search for and pick out human and vehicle targets from SMD event videos, prioritizing the highest matches.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Pixel	2 MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	4 GB
RAM	1 GB
Electronic Shutter Speed	1/1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005 Lux@F1.6 B/W: 0.0005 Lux@F1.6 0Lux (IR light on)
Illumination Distance	150 m (492.13 ft)
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR; Off
Illuminator Number	4 (IR)

Lens

Focal Length	3.95 mm–177.75 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	45×
Focus Control	Auto; semi-auto; manual
Close Focus Distance	0.1 m–1 m (0.33 ft–3.28 ft)
Iris Control	Auto; manual

	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)
DORI Distance	*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/ project design tool.			

PTZ

Pan/Tilt Range	Pan: 0° to 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
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Idle Motion	Pattern;Preset;Scan;Tour

Intelligence

IVS (Perimeter Protection)	Tripwire; intrusion; climbing fences; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification; linkage tracking
Face Detection	Supports face detection, optimization, tracking, capturing pictures, uploading high-quality face snapshots, and face enhancement; Supports attributes extraction. 6 attributes and 8 expressions: Gender, age, glasses, expressions (angry, sad, hate, scary, surprise, calm, happy and confused), mask, mustache; Supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing, optimization, and quality first.
Video Metadata	Detects motor and non-motor vehicles, faces and human bodies. It also performs tracking, takes snapshots, uploads high-quality face images and optimizes images. It extracts attributes from motor vehicles, detecting up to 10 attributes for them.
People Counting	Uses advanced image processing technology to extract depth information from images. The extracted information is then processed by advanced, deep learning algorithms to analyze and detect human bodies, and track targets in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.
Auto Tracking	Yes
SMD	SMD 4.0
Auto Patrol	It triggers the IVS rule when a target is detected and makes the camera link with the PTZ to rotate to the position of the target and patrol based on its presets.
Acupick	Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets.

Video

Video Compression	H.264H; H.264B; Smart H.265+; H.264; H.265; MJPEG(Sub Stream); Smart H.264+
Streaming Capability	3 streams
Resolution	1080p (1920 × 1080); 960p (1280 × 960); 720p (1280 × 720); D1 (704 × 576); VGA (640 × 480); CIF (352 × 288)
Video Frame Rate	Main stream: 1080P/1.3M/720p@ (1–50/60 fps) Sub stream 1: D1/VGA/CIF@ (1–25/30 fps) Sub stream 2: 1080p/1.3M/720p (1–25/30 fps)
Bit Rate Control	CBR/VBR
Video Bit Rate	H264: 64 kbps–10496 kbps H265: 25 kbps–6400 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
WDR	120 dB
HLC	Yes
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural light/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D

Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	Electronic (EIS)
Defog	Electronic
Digital Zoom	16×
Image Rotation	180°
Privacy Masking	Up to 24 areas can be set, with up to 8 areas in the same view
S/N Ratio	≥ 55 dB

Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723

Network

Network Port	1 × RJ-45 (10/100 Base-T)
Network Protocol	FTP; RTMP; IPv6; Bonjour; IPv4; DNS; RTCP; PPPoE; NTP; RTP; 802.1x; HTTPS; SNMP; TCP/IP; DDNS; UPnP; NFS; ICMP; UDP; IGMP; HTTP; SSL; DHCP; SMTP; Qos; RTSP; ARP
Interoperability	CGI; SDK; ONVIF (Profile S&G&T); P2P
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (Up to 512 GB); FTP; NAS
Browser	IE 9 and later versions Chrome 41 and later versions Firefox 50 and later versions iOS 10 and later versions
Management Software	DSS; DMSS
Mobile Client	iOS; Android

Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014 UL: UL60950-1+CAN/CSA 22.2, No.60950-1

Port

Audio Input	1 channel
Audio Output	1 channel
Alarm Linkage	Capture; recording; send email; preset; tour; pattern; alarm digital output
Alarm Event	Motion/Tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection
Alarm I/O	2/1
Audio I/O	1/1

Power

Power Supply	24 VDC, 2.5 A ± 25% PoE+ (802.3at)
Power Consumption	Basic: 10 W Max: 22 W (illuminator on)

Environment

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

Structure

Product Dimensions	332 mm × Φ190 mm (13.07" × Φ7.48")
Net Weight	4.7 kg (10.36 lb)
Gross Weight	8.0 kg (17.64 lb)

Ordering Information

Type	Model	Description
2MP WizSense PTZ Camera	DH-SD5A245GB-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera
	SD5A245GB-HNR	2MP 45x Starlight IR WizSense Network PTZ Camera
Accessories	PFB305W	Wall Mount Bracket
	DC 24 V/2.5 A	Power Adapter
	PFA111	Mount Adapter
	PFA120	Mount Adapter
	PFB300C	Ceiling Mount Bracket
	PFA150	Pole Mount Bracket
	PFA151	Corner Mount Bracket
	PFB301C	Ceiling Mount Bracket

Accessories

Included:

PFB305W
Wall Mount Bracket

DC 24 V/2.5 A
Power Adapter

Optional:

PFA111
Mount Adapter

PFA120
Water-proof
Junction Box

PFB300C
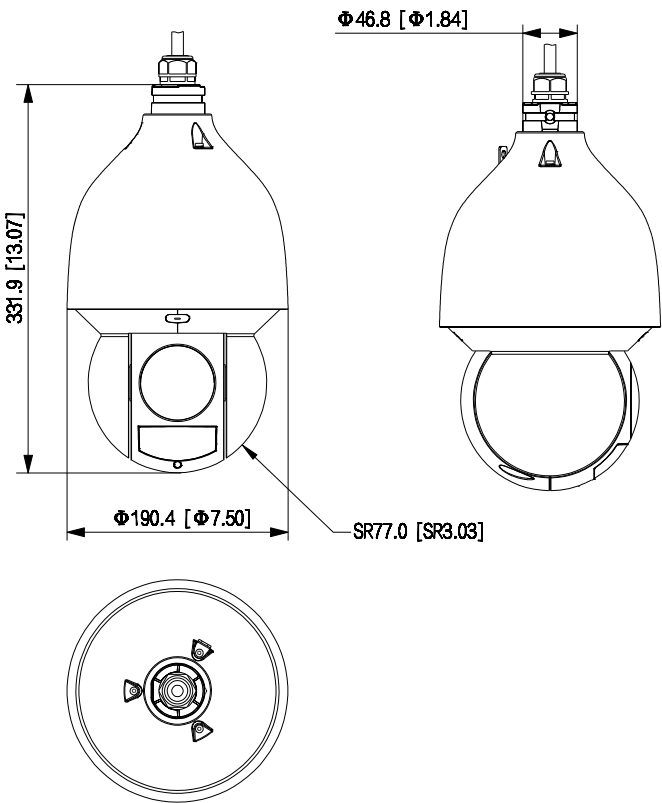Ceiling Mount
Bracket

PFA150
Pole Mount
Bracket

PFA151
Corner Mount
Bracket

PFB301C
Ceiling Mount
Bracket

Wall Mount	Ceiling Mount 1	Ceiling Mount 2
PFB305W+PFA120	PFA111+PFB300C	PFA111+PFB301C
Pole Mount (Vertical)	Corner Mount	Pole Mount (Horizontal)
PFB305W+PFA150	PFB305W+PFA151	PFA111+PFB300C+PFA150

Dimensions (mm [inch])

Φ46.8 [Φ1.84]

331.9 [13.07]

Φ190.4 [Φ7.50]

SR77.0 [SR3.03]