

DH-SD1A404XB-GNR-W

4M 4x Starlight IR PTZ AI Network Camera



- 1/2.8" 4Megapixel STARVIS™ CMOS
- Starlight technology
- Max. 25/30fps@4MP
- 4x optical zoom
- Face Detection, People Counting, Perimeter Protection
- IR distance up to 15m
- WIFI (support 2.4G & 5G)
- IP66, IK08



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

Dahua PTZ AI network camera adopts advanced CNN deep learning algorithms to support perimeter protection with high accuracy. The camera is equipped with smooth control, high quality image, and good protection, meeting compact size demands of video surveillance applications.

Functions

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting 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.

Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -30 °C to +60 °C (-22 °F to +140 °F) with

95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

Protection

The camera allows for $\pm 15\%$ input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning.

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 optimizes both the bright and dark areas of a scene at the same time to provide usable video.

H.265+

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. 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			
Effective Pixels	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@F1.8 B/W: 0.0005Lux@F1.8 0Lux (IR light on)			
IR Distance	15 m (49.21 ft)			
IR On/Off Control	Zoom Prio/Manual/SmartIR			
IR LEDs Number	3			
Lens				
Focal Length	2.8 mm–12 mm			
Max. Aperture	F1.8–F2.7			
Field of View	H: 31.6°–96.9° V: 17.8°–51.4° D: 36.4°–116.2°			
Optical Zoom	4x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	0.2 m–0.5 m (0.66 ft– 1.64 ft)			
Iris Control	Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	147 m (482.28 ft)	58.8 m (192.91 ft)	29.4 m (96.46 ft)	14.7 m (48.23 ft)
PTZ				
Pan/Tilt Range	Pan: 0°–355° Tilt: 5°–90°			
Manual Control Speed	Pan: 0.1°/s–70°/s Tilt: 0.1°/s–30°/s			
Preset Speed	Pan: 80°/s Tilt: 40°/s			
Presets	300			
Tour	8 (up to 32 presets per tour)			
Speed Adjustment	Support			
Power-off Memory	Support			
Idle Motion	Preset/Tour			
General Intelligence				
Event Trigger	Motion detection, Video tampering, Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly			
General Intelligence	Object Abandoned/Missing			

Artificial Intelligence				
People Counting	Count people in the area; generate report			
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			
Video				
Compression	H.265; H.264BaselineProfile; H.264MainProfile; H.264HighProfile; MJPEG(Sub Stream); H.265+; H.264+			
Streaming Capability	3 streams			
Resolution	4M (2560 x 1440); 3M (2048 x 1536); 1080P (1920 x 1080); 1.3M (1280 x 960); 720P (1280 x 720); D1 (704 x 576/704 x 480); CIF (352 x 288/352 x 240)			
Frame Rate	Main stream: 4M/3M (1–25/30fps), 1080P/1.3M/720P (1–25/30fps) Sub stream 1: D1/CIF (1–25/30fps) Sub stream 2: 720P (1–25/30fps), D1/CIF (1–25/30fps)			
Bit Rate Control	Variable Bit Rate/Constant Bit Rate			
Bit Rate	H.264/H.265/MJPEG: 3 kbps–20480 kbps			
Day/Night	Auto (ICR)/Color/B/W			
BLC	Support			
WDR	120 dB			
HLC	Support			
White Balance	Auto/Indoor/Outdoor/Track/Manual/Sodium lamp/ Natural light/Street lamp			
Gain Control	Auto/Manual			
Noise Reduction	2D/3D			
Motion Detection	Support			
Region of Interest (RoI)	Support			
Electronic Image Stabilization	Support			
Electronic Defog	Support			
Digital Zoom	16x			
Flip	0°/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)			
Wi-Fi	Support			
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; CGI			
Streaming Method	Unicast/Multicast			
User/Host	20			

Edge Storage	FTP; Micro SD card (256G); P2P
Browser	IE; Chrome; Firefox; Safari (no version restriction)
Management Software	SmartPSS DSS
Smart Phone	iOS/Android
Certification	
Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI C63.4-2014
Port	
Audio In	1
Audio Out	1
Power	
Power Supply	DC12V/1.5A±15%
Power Consumption	3W 8.5W (IR on)
Environment	
Operating Temperature	-30°C to +60°C (-22°F to 140°F)
Operating Humidity	≤95%
Ingress Protection	IK08; IP66; TVS 6000V lightning proof; surge protection
Structure	
Casing	Metal
Dimensions	Φ128.0 mm × 65.4 mm (5.04" × 2.57")
Net Weight	0.485 kg (1.06 lb)
Gross Weight	0.7 kg (1.54 lb)

Ordering Information		
Type	Model	Description
4M Camera	DH-SD1A404XB-GNR-W	4M 4x Starlight IR PTZ AI Network Camera, WIFI, PAL
	DH-SD1A404XBN-GNR-W	4M 4x Starlight IR PTZ AI Network Camera, WIFI, NTSC
	SD1A404XB-GNR-W	4M 4x Starlight IR PTZ AI Network Camera, WIFI, PAL
	SD1A404XBN-GNR-W	4M 4x Starlight IR PTZ AI Network Camera, WIFI, NTSC
Accessories	PFA107	Mount Adapter
	PFB305W	Wall Mounting Bracket
	DH-PFA120	Junction Box
	DH-PFA140	Power Box
	DH-PFA151	Corner Mounting Bracket
	PFB220C	Ceiling Mounting Bracket
	DH-PFA150	Pole Mounting Clamp

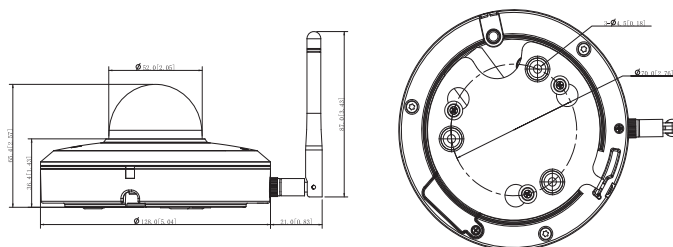
Accessories

Optional:

PFA107
Mount AdapterPFB305W
Wall Mounting BracketDH-PFA120
Junction BoxDH-PFA140
Power BoxDH-PFA150
Pole Mounting ClampDH-PFA151
Corner Mounting BracketPFB220C
Ceiling Mounting Bracket

Ceiling Mount (1)	Wall Mount	Ceiling Mount (2)
	PFA107+PFB305W	PFA107+PFB220C
Pole Mount (1)	Pole Mount (2)	Corner Mount
PFA107+PFB305W+PFA150	PFA107+PFB220C+PFA150	PFA107+PFB305W+PFA151

Dimensions (mm[inch])



Regulatory Information

The regulatory information herein might vary according to the model you purchased. Some information is only applicable for the country or region where the product is sold.

FCC Information



CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC conditions:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC compliance:

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication.

This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.

- ✓ For class B device, these limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Battery Replacement and Disposal

Applicable to products with battery.



CAUTION

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.