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
- · SMD
- · 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 primeter 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 ±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.

SMD

With Deep-Learning Algorithm, Dahua SMD filters the motion detection alarm triggered by non-concerned target and recognize human and vehicle effectively, sending alarms when human and vehicle intrudes.

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.
SMD	Support
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 × 480); CIF (352 x 288/352 × 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)

Accessories

Optional:

PFA107
Mount Adapter

PFB305W
Wall Mounting Bracket

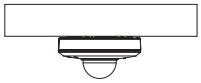
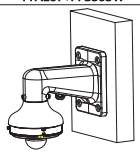
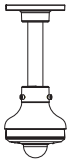
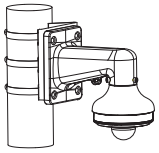
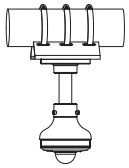
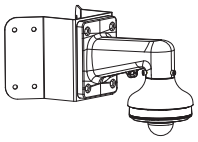
DH-PFA120
Junction Box

DH-PFA140
Power Box

DH-PFA150
Pole Mounting Clamp

DH-PFA151
Corner Mounting Bracket

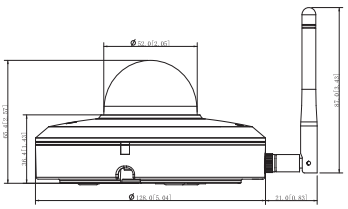
PFB220C
Ceiling Mounting Bracket

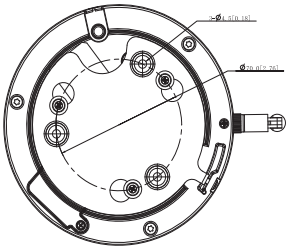
Ceiling Mount (1)	Wall Mount	Ceiling Mount (2)
	PFA107+PFB305W	PFA107+PFB220C
		
Pole Mount (1)	**Pole Mount (2)**	**Corner Mount**
PFA107+PFB305W+PFA150	PFA107+PFB220C+PFA150	PFA107+PFB305W+PFA151
		

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

Dimensions (mm[inch])





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