** alhua** TECHNOLOGY

DH-PTZ83440-HNF-WA

2MP 40x Starlight IR AI Network Positioning System

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

With CNN algorithm, Dahua AI speed dome supports intelligent functions like tripwire and intrusion; and supports video structuralization function that recognizes motor vehicle, non-motor vehicle, and huam to analyze their detailed information (plate number, vehicle brand, and human age and gender, etc.). With PFA algorithm, the speed dome can get clear images all the time during zooming. In addition, silent motor driver integrated circuits enable the speed dome to make faint sounds during rotation.

Functions

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving 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 0.001 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.

- · 1/1.8"4Megapixel CMOS
- · Powerful 40x optical zoom
- · Starlight technology
- · Max. 25/30fps@4M
- · IR distance up to 400m
- · Deep-learning-based auto tracking and perimeter protection
- · Auto-tracking and IVS
- · IP67

H.265 | WDR | ICR D/N | IP67 | Face Recognition | False Alarm Filter | Blacklist Alarm | Face Capture

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 makes it suitable for demanding outdoor applications.

Protection
The camera allows for ±25% 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.

Interoperability
The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

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.

ONVIF

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Max. Resolution	4MP
Effective Pixels	2560 (H)×1440 (V)
ROM	32GB
RAM	4GB
Electronic Shutter Speed	1/1–1/30000s
Scanning Mode	Progressive Scanning
Minimum Illumination	Color: 0.001Lux@F1.4 B/W: 0.0001Lux@F1.4 0Lux (IR light on)
IR Distance	400m(1312.34ft)
IR On/Off Control	Zoom Prio/Manual/SmartIR
IR LED Number	10
Wiper	Support

Lens

Focal Length	5.6 mm–223 mm
Aperture	F1.4–F4.5
Field of View	H:2.0°~63.9°; V: 1.2°–35°; D: 2.4°–66.9°
Optical Zoom	40x
Focus Control	Auto/Semi-Auto/Manual
Close Focus Distance	0.5 m–2 m
Iris Control	Auto

DORI Distance	Detect	Observe	Recognize	Identify
	3034.5 m (9953.1ft)	1213.8 m (3981.24 ft)	606.9 m (1990.6 ft)	303.4 m (995.3 ft)

PTZ

Pan/Tilt Range	Pan: 0°–360°; Tilt: -90°~45°
Manual Control Speed	Pan: 0.1°–160°/s; Tilt: 0.1°–60°/s
Preset Speed	Pan: 160°/s; Tilt: 60°/s
Presets	300
Tour	8(up to 32 preset per tour)
Pattern Number	5
Scanning Number	5
Speed Adjustment	Support
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SD Pelco-P/D(Auto recognition)

Artificial Intelligence

Metadata	Support human body, human face, motor vehicle and non-motor vehicle image capture and atributes extracton.
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.
Auto Tracking	Support
Face Recognition	Support

General Intelligence

Event Trigger	Motion detection, video tampering, scene changing, Network disconnection, IP address conflict, illegal access, and storage anomaly.
General IVS	Object Abandoned/Missing

Video

Compression	H.265, H.264Main/High/Baseline Profile, MJPEG(Sub Stream)
Streaming Capability	3 Streams
Resolution	4M (2560×1440); 3M (2048×1536); 1080P (1920×1080); (1.3M)1280×960; 720P (1280×720); D1 (704× 576); CIF (352×288)
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: 1080P/1.3M/720P(1–25/30fps), D1/CIF(1–25/30fps)
Bit Rate Control	Variable Bit Rate/Constant Bit Rate
Bit Rate	H.264: 3072 Kbps–15104 Kbps H.265: 1280 Kbps–9216 Kbps
Day/Night	Support
BLC	Support
WDR	120dB
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
Electronic Image Stabilization (EIS)	Support
Defog	support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Function

CVI Mode	CVBS

Audio

Audio Compression	G.711A; G.711Mu; G.726; AAC; G.722.1; G.723; G.729; PCM; MPEG2-Layer2

Port

Ethernet Port	1 RJ-45 Port 10/100Base-T

Audio In	1
Audio Out	1
Alarm Port	7 in and 2 out
Analog Output	1 BNC
RS-485	1

Network

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
Interoperability	ONVIF Profile S&G; CGI
Streaming Method	Unicast/Multicast
Max. User Access	20 (Total bandwidth 64M)
Edge Storage	FTP; Micro SD card (256G)
Browser	IE7 and newer versions Chrome 42 and older versions Firefox 52 and older versions Safari
Management Software	Smart Player Smart PSS DSS Easy4ip
Smart Phone	IOS/Android/Windows Phone

Electrical

Power Supply	AC24V/8.35A±25%
Power Consumption	39W 70W (IR light on, PTZ, wiper, heater)

Environment

Operating Conditions	-40°C ~ 70°C (−40°F to +158°F)
Operating Humidity	≤95%RH
Ingress Protection	IP67; TVS 6000V lightning protection; surge protection

Construction

Dimensions	210.7mm×366.5mm×498.7mm (8.30"×14.43"×19.63")
Weight	Net Weight: 14 kg (30.86 lb); Gross Weight: 19.77 kg (43.59 lb)

Ordering Information

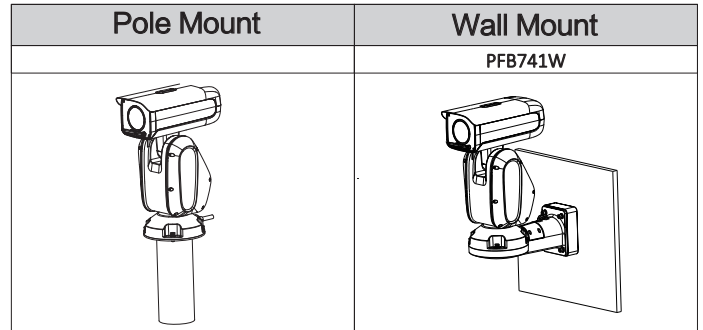| Type	Model	Description
4K Camera	DH-PTZ83440-HNF-WA	4MP 40x Starlight IR AI Network Positioning System
	PTZ83440-HNF-WA	4MP 40x Starlight IR AI Network Positioning System
	DH-PTZ83440N-HNF-WA	4MP 40x Starlight IR AI Network Positioning System
	PTZ83440N-HNF-WA	4MP 40x Starlight IR AI Network Positioning System
Accessories	DH-PFB741W(Bracket)	Wall Mount
	DH-PFB741W(Junction box)	Wall Mount
	AC24V/8A	Power Adapter

Accessories

Optional:

DH-PFB741W
(Junction box)
Wall Mount

DH-PFB741W
(Bracket)
Wall Mount

AC24V/8A
Power Adapter

Pole Mount	Wall Mount
	PFB741W

Dimensions (mm[inch])

210.7[8.30]
498.7[19.63]
366.5[14.43]
191.1[7.52]
Ø188.0[7.40]
4-Ø9.0[0.35]−EQS
Ø206.0[8.11]