alhua TECHNOLOGY

DH-PTZ83840-HNF-WA

8MP 40x Starlight IR AI Network Positioning System

- · 1/1.8" 8Megapixel STARVIS™ CMOS
- · Powerful 40x optical zoom
- · Starlight technology
- · Max. 25/30fps@4K
- · IR distance up to 400 m
- · 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 |

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 human to analyze their detailed information (plate number, vehicle brand, 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.

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" STARVIS™ CMOS
Max. Resolution	3840 (H) × 2160 (V)
Effective Pixels	8MP
ROM	32GB
RAM	4GB
Electronic Shutter Speed	1/1–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.005Lux@F1.4 B/W: 0.0005Lux@F1.4 0Lux (IR light on)
IR Distance	400 m (1312.34 ft)
IR On/Off Control	Zoom Prio/Manual/SmartIR
IR LED Number	10
Wiper	Support

Lens

Focal Length	5.6 mm–224 mm			
Max. 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 (1.64 ft–6.56 ft)			
Iris Control	Auto			
DORI Distance	Detect	Observe	Recognize	Identify
	4400 m (14435.70 ft)	1760 m (5774.28 ft)	880 m (2887.14 ft)	440 m (1443.57 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

Video Metadata	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.
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.264H/H.264B/H.264/MJPEG (sub stream)
Streaming Capability	3 streams
Resolution	4K (3840 × 2160); 1080P (1920 × 1080); 1.3M (1280 × 960); 720P (1280 × 720); D1 (704 × 576); CIF (352 × 288)
Frame Rate	Main stream: 4K (1–25/30fps); 1080P/1.3M/720P (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 1080P/1.3M/720P (1–25/30 fps); D1/CIF (1–25/30 fps)
Bit Rate Control	Variable Bit Rate/Constant Bit Rate
Bit Rate	H.264: 4683 kbps–16384 kbps H.265: 1801 kbps–14410 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
Electronic Image Stabilization (EIS)	Support
Defog	Optical Defog
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio

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

Port

Audio In	1

Audio Out	1
Alarm	7/2
Analog Output	1 BNC
RS-485	1

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
Interoperability	ONVIF Profile S&G; CGI
Streaming Method	Unicast/Multicast
User/Host	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

Power

Power Supply	DC 36V/2.23A ± 25%
Power Consumption	31.85W 61.35W (IR LEDs on and PTZ moving)

Environment

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

Structure

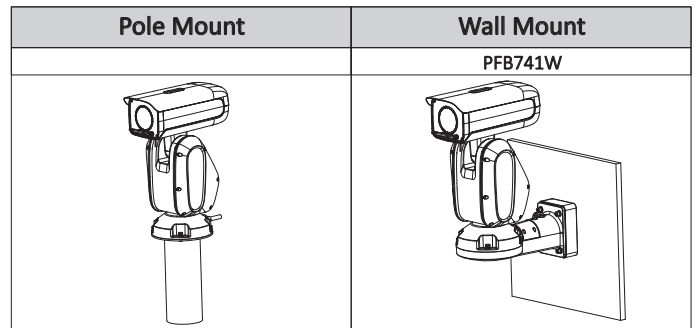|	
Casing	Metal + plastic
Dimensions	210.7 mm × 366.5 mm × 498.7 mm (8.30" × 14.43" × 19.63")
Net Weight	14 kg (30.86 lb)
Gross Weight	19.77 kg (43.59 lb)

Ordering Information

Type	Model	Description
4K Camera	DH-PTZ83840-HNF-WA	8MP 40x Starlight IR AI Network Positioning System
	PTZ83840-HNF-WA	8MP 40x Starlight IR AI Network Positioning System
	DH-PTZ83840N-HNF-WA	8MP 40x Starlight IR AI Network Positioning System
	PTZ83840N-HNF-WA	8MP 40x Starlight IR AI Network Positioning System

Accessories	DH-PFB741W(Bracket)	Wall Mount
	DH-PFB741W(Junction box)	Wall Mount
	DC36V/2.23A	Power Adapter

Accessories

Included:

DH-PFB741W Bracket

DH-PFB741W Junction box

DC36V/2.23A 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]
∅188.0[7.40]
4-∅9.0[0.35]-EQS
∅206.0[8.11]