

# DH-SD8A240WA-HNF

2MP 40x Starlight IR PTZ AI Network Camera



- 1/1.8" 2Megapixel CMOS
- Powerful 40x optical zoom
- Starlight technology
- IR distance up to 500m
- Support face recognition
- Deep-learning-based auto tracking and perimeter protection
- Support metadata
- Support Hi-PoE
- Smart Wiper
- IP67



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 face recognition with high accuracy. This camera possess wide monitor range, PFA algorithm that can always present a clear, focused image while zooming, and smart wiper technology that supported by RainSensor.

## Functions

### 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.

### Face Recognition

Once facial features are extracted from captured faces, they are stored in a database where they can be easily searched and compared against other images. Once a successful match is found, the system outputs the result. The Dahua Face Recognition camera supports a built-in database that stores up to 10,000 facial images, helping the camera achieve real-time face capture and comparison.

### 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.

## Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ AI camera: human face, human body, motor vehicle and non-motor vehicle metadata. Facial information includes gender, age, glasses, masks, beards, etc. Human body information includes hat, top, top color, bottom, bottom color, bag, etc. Motor vehicle information includes plate color, type, vehicle color, sunshield, ornament, calling, seatbelt, smoking, annual inspection sticker, etc. Non-motor vehicle information includes type, color, top type, top color, people number, etc.

## 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  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV 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.

Technical Specification				Metadata	Support human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction
<b>Camera</b>				<b>General Intelligence</b>	
Image Sensor				Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly
Effective Pixels				General Intelligence	Object Abandoned/Missing
Scanning System				<b>Video</b>	
Electronic Shutter Speed				Compression	H.265+/H.265/H.264+/H.264/MJPEG(Sub Stream)
Minimum Illumination				Streaming Capability	3 Streams
IR Distance				Resolution	1080P(1920x1080)/1.3M(1280x960)/720P(1280x720)/D1(704x576/704x480)/CIF(352x288/352x240)
IR On/Off Control					Main stream: 1080P/1.3M/720P(1~50/60fps)
IR LEDs				Frame Rate	Sub stream1: D1/CIF(1 ~ 25/30fps)
Smart Wiper					Sub stream2: 1080P/1.3M/720P(1 ~ 25/30fps)
<b>Lens</b>				Bit Rate Control	CBR/VBR
Focal Length				Bit Rate	H.265/H.264: 512K ~ 8192Kbps
Max. Aperture				Day/Night	Auto(ICR) / Color / B/W
Angle of View				Backlight Compensation	BLC / HLC / WDR(120dB)
Optical Zoom				White Balance	Auto, ATW, Indoor, Outdoor, Manual
Focus Control				Gain Control	Auto / Manual
Iris Control				Noise Reduction	Ultra DNR (2D/3D)
Close Focus Distance				Motion Detection	Support
<b>DORI Distance</b>				Region of Interest	Support
*Note: The DORI distance is a "general proximity" of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.				Electronic Image Stabilization (EIS)	Support
Detect		Observe	Recognize	Optical Defog	Support
2340m(7677ft)		930m (3051ft)	460m(1509ft)	Digital Zoom	16x
<b>PTZ</b>				Flip	180°
Pan/Tilt Range		Pan: 0° ~ 360° endless; Tilt: -30° ~ 90°,auto flip 180°		Privacy Masking	Up to 24 areas
Manual Control Speed		Pan: 0.1° ~240° /s; Tilt: 0.1° ~100° /s		<b>Audio</b>	
Preset Speed		Pan: 240° /s; Tilt: 120° /s		Compression	G.711a/G.711mu/PCM/G.726/AAC/G722.1/G.729/MPEG2-Layer2
Presets		300		<b>Network</b>	
PTZ Mode		5 Pattern, 8 Tour(up to 32 preset per tour), Auto Pan, 5 Auto Scan		Ethernet	RJ-45 (10Base-T/100Base-TX)
Speed Setup		Human-oriented focal Length/ speed adaptation		Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, RTP, RTSP, RTP, SMPT, NTP, DHCP, DNS, PPPoE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Power up Action		Auto restore to previous PTZ and lens status after power failure		Interoperability	ONVIF Profile S&G, API
Idle Motion		Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period		Streaming Method	Unicast / Multicast
Protocol		DH-SD, Pelco-P/D (Auto recognition)		Max. User Access	20 users
<b>Artificial Intelligence</b>				Edge Storage	NAS (Network Attached Storage),Local PC for instant recording, Micro SD card 256GB
Auto Tracking		Support		Web Viewer	IE, Chrome, Firefox, Safari
Face Recognition		Support		Management Software	Smart PSS, DSS, DMSS
Perimeter Protection		Tripwire, Intrusion. Support alarm triggering by target types(human and vehicle) Filtering out false alarms caused by animals, rustling leaves, bright lights, etc		Smart Phone	IOS, Android

# Ultra AI Series | DH-SD8A240WA-HNF

## Certifications

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4- 2014
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## Interface

Video Interface	1 port(BNC, 1.0V[p-p], 75Ω)
RS485	1
Audio I/O	1/1
Alarm I/O	7/2

## Electrical

Power Supply	AC24V/3A(±25%), Hi-PoE
Power Consumption	26W, 38W (Heater on, IR on)

## Environmental

Operating Conditions	-40°C ~ 70°C (-40°F ~ +158°F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	N/A

## Construction

Casing	Metal
Dimensions	Φ262(mm) x 415.6 (mm)
Net Weight	8.5kg(18.74lb)
Gross Weight	14.3kg(31.53lb)

## Ordering Information

Type	Part Number	Description
2MP PTZ Camera	DH-SD8A240WA-HNF	2MP 40x Starlight IR PTZ AI Network Camera, WDR, PAL
	DH-SD8A240WAN-HNF	2MP 40x Starlight IR PTZ AI Network Camera, WDR, NTSC
	SD8A240WA-HNF	2MP 40x Starlight IR PTZ AI Network Camera, WDR, PAL
	SD8A240WAN-HNF	2MP 40x Starlight IR PTZ AI Network Camera, WDR, NTSC
Accessories	PFB306W	Wall Mount
	AC24V/3A	Power Adapter
	PFA118	Mount Adapter
	PFB710C	Ceiling Mount
	PFA150	Pole Mount
	PFB301S-E	Plane Mount

## Accessories

Included:



PFB306W  
Wall Mount



AC24V/3A  
Power Adapter

Optional:



PFA118  
Mount Adapter



PFB710C  
Ceiling Mount



PFA150  
Pole Mount



PFB301S-E  
Plane Mount

Wall Mount	Ceiling Mount
PFB306W	PFA118+PFB710C
Pole Mount	Plane Mount
PFB306W+PFA150	PFB301S-E

## Dimensions (mm)

