



# DH-SD8A440-HNF-PA

4MP 40x Starlight IR PTZ AI Network Camera



Wiz Mind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for industry verticals.

#### System Overview

Dahua PTZ WizMind network camera adopts advanced CNN deep learning algorithms to achieve high accuracy. This camera possesses 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 conditions, Dahua's Starlight Ultra-low Light Technology offers the best in light sensitivity, capturing color in vivid detail, even in lighting as low as 0.001 lux. The camera uses a set of optical features to balance light throughout the scene, producing clear images in dark environments.

#### **Perimeter Protection**

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, and more, and uses secondary recognition during target detection to improve alarm accuracy.

#### Video Metadata

Metadata is information on the attributes of targets that is extracted during monitoring. It can be used for data retrieval. There are four kinds of metadata supported by Dahua PTZ WizMind cameras: Human face, human body, motor vehicle and non-motor vehicle. Face information includes gender, age, glasses, masks, beards, and more. Human body information includes hat, top, top color, bottom, bottom color, bag, and more. Motor vehicle information includes plate color, type, vehicle color, sun visor, ornament, calling, seatbelt, smoking, annual inspection sticker, and more. Non-motor vehicle information includes type, color, top type, top color, people number, and more.

- 1/1.8" 4Megapixel STARVIS™ CMOS
- Powerful 40x optical zoom
- Starlight+ technology
- Perimeter protection
- Metadata
- Face Recognition
- Auto-tracking
- Smart wiper
- IP67



#### Auto-tracking

This feature controls the pan, tilt and zoom actions of the camera to automatically track an object in motion, to keep it in view of the camera. Tracking 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.

#### **PFA Technology**

PFA technology has introduced new methods of judgment that ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms that ensure image clarity when zooming and that shorten focus time. This makes the camera highly advanced in its functions, substantially improving the quality of your experience.

#### 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, a flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality videos without straining the network. Smart H.265+ technology outranks standard H.265 video compression, reducing bit rate and storage requirements by up to 70%.

## Wiz Mind | DH-SD8A440-HNF-PA

#### **Technical Specification**

Camera					
Image Sensor	1/1.8" CMOS				
Pixel	4 MP				
Max. Resolution	2560 (H) x 1440 (V)				
ROM	8 GB				
RAM	2 GB				
Electronic Shutter Speed	1/1 s-1/30,000 s				
Scanning System	Progressive				
Min. Illumination	Color: 0.001 lux@F1.4 B/W: 0.0001 lux@F1.4 0 lux@F1.4 (illuminator on)				
Illumination Distance	500 m (1640.42 ft)				
Illuminator On/Off Control	Zoom Prio; Manual; Smart IR				
Illuminator Number	10 IR lights				
Wiper	Smart wiper				
Lens					
Focal Length	5.6 mm–223 mm				
Max. Aperture	F1.4-F4.5				
Field of View	H: 61.8°–2.2°; V: 36.3°–1.3°; D: 69.2°–2.4°				
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; manual				
DORI Distance	Detect	Observe	Recognize	Identify	
	3,034.5 m (9,955.71 ft)	1,204.2 m (3,950.79 ft)	606.9 m (1,991.14 ft)	303.4 m (995.41 ft)	
PTZ					

Pan: 0° to 360°

300

5

5

Yes

Yes

DH-SD

Pan: 0.1°/s–240°/s Tilt: 0.1°/s–100°/s

Pan: 240°/s; Tilt: 120°/s

8 (up to 32 presets per tour)

Preset; Tour; Pattern; Scanning

Pelco-P/D (auto recognition)

Tilt: -30° to +90°, auto flip 180°

Pan/Tilt Range

Manual Control

Preset Speed

Speed

Preset

Tour

Scan

Pattern

Speed Adjustment

Power-off Memory

Idle Motion

PTZ Protocol

IVS Object Abandoned/Missing Intelligence Support human body, human face, motor vehicle and Video Metadata non-motor vehicle image capture and attributes extraction. Tripwire; intrusion; climbing fences; loitering detection; **IVS** (Perimeter abandoned/missing object; fast moving; parking detection; Protection) people gathering; vehicle/human alarm classification Face Recognition Yes Auto Tracking Yes Video Smart H.265+; H.265; Smart H.264+; H.264; MJPEG (Sub Video Compression Stream 1) Streaming Capability 3 streams 4M (2560 × 1440); 1080p (1920 × 1080); 1.3M (1280 × 960); Resolution 720p (1280 × 720); D1 (704 × 576); CIF (352 × 288) Main stream: 4M/1080p/1.3M/720p (1-25/30 fps) Video Frame Rate Sub stream 1: D1/CIF (1-25/30 fps) Sub stream 2: 1080p/1.3M/720p (1-25/30 fps) Bit Rate Control CBR; VBR Video Bit Rate H.265/H.264: 512 kbps-8192 kbps Day/Night Auto (ICR); Color; B/W BLC Yes WDR 140 dB HLC Yes Auto; indoor; outdoor; tracking; manual; sodium lamp; natural White Balance light; street lamp Gain Control Auto; manual Noise Reduction 2D NR; 3D NR Motion Detection Yes **Region of Interest** Yes (Rol) Defog Optical Digital Zoom 16x Image Rotation 0°;180° **Privacy Masking** Up to 24 areas can be set, with up to 8 areas in the same view S/N Ratio ≥55 dB Audio G.711a; G.711mu; G.726; AAC; G722.1; G.729; MPEG2-Layer2; Audio Compression G723 Network Network Port RJ-45 (10/100 Base-T) IPv4; IPv6; HTTP; HTTPS; 802.1x; QoS; FTP; SMTP; UPnP; SNMP v1/v2c/v3 (MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; Network Protocol IGMP; ICMP; DHCP; PPPoE; ARP; RTCP; RTMP

Motion detection, video tampering, scene changing, network

disconnection, IP address conflict, illegal access, and storage

Smart Event

**Event Trigger** 

anomaly

### Wiz Mind | DH-SD8A440-HNF-PA

InteroperabilityONVIF (Profile S&G&T); CGIStreaming MethodUnicast; MulticastIver/Host20 (total bandwidth: 64 M)Iver/HostStrorageFTP; Micro SD card (512 GB)BrowserE7 and later versions Chrome 42 and earlier versions SafarManagement SoftwareSmart PSS; DSS; DMSS; Easy4ip; IVSSMobile ClientIo3; AndroidCertificationCE: ENS5032/ENS5024/ENS0130-4 FCC: Part15 subpartB, ANSI C63.4-2014PortStandAnalog OutputIBNCAnalog OutputIo4udrate range: 1200 bps-9600 bps)Adarin /O7/2Adarin /OI/1PowerInfoPower SupplyBasic: 30 W Max: 48 W (Illuminator + PTZ working)PortStructureChrotinomentStructureForeatingAnd° C to +70° C (-40° F to +158° F)PotectionIPS7, TVS 6000 V lightning protection; surge protection; voltage transient protection; surge protection; <b< th=""><th></th><th></th></b<>		
Just ProgramUser/Host20 (total bandwidth: 64 M)StorageFTP; Micro SD card (512 G8)BrowserIE 7 and later versions Chrome 42 and earlier versions SafariBrowserIE 7 and later versions Chrome 42 and earlier versions SafariManagement Softwaresmart PSS; DSS; DMSS; Easy4ip; IVSSMobile ClientiOS; AndroidCertificationCE: ENSS032/ENS5024/ENS0130-4 EC: PartIS subpartB, ANSI C63.4-2014PortIOEAnalog Output1(baud rate range: 1200 bps-9600 bps)Analog Output1/1Analog Output1/2Analog Output1/1PowerInf. PocePowerSafariPower SupplySo VDC, 2.23 A (±25%) Hi-PocePower ConsumptionBasis: 30 W Max: 48 W (illuminator + PTZ working)Portaring-40 °C to +70 °C (-40 °F to +158 °F)Operating Pemperature95% (RH)ProtectionWitage transient protection; surge protection; oitage transient protectionStructure	Interoperability	ONVIF (Profile S&G&T); CGI
And IstrangeFTP: Micro SD card (512 GB)StorageFTP: Micro SD card (512 GB)BrowserIF 7 and later versions SafariManagement SoftwareSmart PSS; DSS; DMSS; Easy4ip; NSSMobile ClientioS; AndroidCertificationCertificationCertificationCertificationPortIBNCRs-4851 (baud rate range: 1200 bps-9600 bps)Alarn I/O1/1PowerInter ange: 1200 bps-9600 bps)PowerSafs: 30 W Max: 48 W (illuminator + PTZ working)Power SupplySafs: 30 W Max: 48 W (illuminator + PTZ working)Portaring-40°C to +70°C (-40°F to +158°F)Operating Humidity95% (RH)ProtectionSing (RH)CasingMetalProduct DimensionMataStructureMetalProduct DimensionMataStructureMetalStructureMetalProduct DimensionMataStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetalStructureMetal<	Streaming Method	Unicast; Multicast
It of and later versions Chrome 42 and earlier versions SafariBrowserIle 7 and later versions SafariManagement SoftwareSmart PSS; DSS; DMSS; Easy4ip; IVSSMobile ClientIOS; AndroidCertificationICertificationCertificationsCE: ENS5032/ENS5024/ENS50130-4 FCC: Part15 subpartB, ANSI CG3.4-2014PortIBNCAnalog Output1 (bud rate range: 1200 bps-9600 bps)Analog Output1/1Analog Output1/1Audio 1/O1/1PowerSoftware 30 W Max: 48 W (illuminator + PTZ working)Power ConsumptionSalov 2Power ConsumptionSoftware 30 W Max: 48 W (illuminator + PTZ working)Portertion-40 °C to +70 °C (-40 °F to +158 °F)Operating PemperatureSoft (RH)ProtectionIle Soft (RH)ProtectionMetalStructure	User/Host	20 (total bandwidth: 64 M)
BrowserChrome 42 and earlier versions SafariManagement SoftwareSmart PSS; DSS; DMSS; Easy4ip; IVSSMobile ClientiOS; AndroidCertificationCertificationCertificationCE: ENS5032/ENS5024/ENS503-4 FCC: Part15 subpartB, ANSI C63.4-2014PortIBNCAnalog Output1BNCAdato I/O1/1Adato I/O7/2Adato I/O1/1PowerSoftwarePower SupplySais: 30 W Max: 48 W (illuminator + PTZ working)Portaring-40 °C to +70 °C (-40 °F to +158 °F)Operating PomperatureSoft (AH)ProtectionSis (RH)ProtectionIBAStructureMetalProduct DimensionSister Ansient protection; surge protection; outget ransient protectionProtectionMetalProtuctureSister Ansient protection; Surge protection; outget ransient protectionProtuctureMetalProduct DimensionMetal	Storage	FTP; Micro SD card (512 GB)
SoftwareSmart PSs; DSS; DMSS; Easy4ip; IVSSMobile ClientiOS; AndroidCertificationCE: ENS5032/ENS5024/ENS0130-4 FCC: Part15 subpartB, ANSI C63.4-2014PortCE: ENS5032/ENS5024/ENS0130-4 FCC: Part15 subpartB, ANSI C63.4-2014PortIBNCAnalog Output1 BNCAnalog Output1 (baud rate range: 1200 bps-9600 bps)Alarm I/O7/2Audio I/O1/1Power36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Power ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Portironment-40 °C to +70 °C (-40 °F to +158 °F)Operating Temperature-40 °C to +70 °C (-40 °F to +158 °F)Operating HumidityS95% (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionStructureIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionProduct DimensionIA16	Browser	Chrome 42 and earlier versions Firefox 52 and earlier versions
CertificationCertificationsCE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB, ANSI CG3.4-2014PortFC: Part15 subpartB, ANSI CG3.4-2014PortI BNCAnalog Output1 (baud rate range: 1200 bps-9600 bps)Adarn I/O7/2Adaron I/O1/1Power1/1Power Supply36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Portionment-Operating 	•	Smart PSS; DSS; DMSS; Easy4ip; IVSS
CertificationsCE: ENS5032/ENS5024/ENS0130-4 FCC: Part15 subpartB, ANSI C63.4-2014PortAnalog Output1 BNCRS-4851 (baud rate range: 1200 bps-9600 bps)Alarm I/O7/2Audio I/O1/1Power1/1Power Supply36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max.: 48 W (illuminator + PTZ working)Porting Temperature-40 °C to +70 °C (-40 °F to +158 °F)Operating Humidity95% (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionStructureCasingMetalProduct Dimensions415.6 mm × 0262 mm (16.36" × 010.31")	Mobile Client	iOS; Android
CertificationsFCC: Part15 subpartB, ANSI C63.4-2014PortAnalog Output1 BNCRS-4851 (baud rate range: 1200 bps-9600 bps)Alarm I/O7/2Audio I/O1/1Power1/1Power Supply36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)EnvironmentOperating Temperature-40 °C to +70 °C (-40 °F to +158 °F)Operating Humidity\$95% (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionStructure	Certification	
Analog Output1 BNCRS-4851 (baud rate range: 1200 bps–9600 bps)Alarm I/O7/2Audio I/O1/1Power I1/1Power Supply36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Environment-40 °C to +70 °C (-40 °F to ±158 °F)Operating Humidity955% (RH)ProtectionIP67, TVS 6000 V lightning protection; surge protection; oltage transient protectionStructureMetalProduct Dimensione415.6 mm × Ф262 mm (16.36" × Ф10.31")	Certifications	
RS-4851 (baud rate range: 1200 bps–9600 bps)Alarn I/O7/2Audio I/O1/1Power1/1Power Supply36 VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Power ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Environment-40 °C to +70 °C (-40 °F to +158 °F)Operating Temperature-40 °C to +70 °C (-40 °F to +158 °F)Operating Humidity>95% (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionStructure	Port	
Alarm I/O7/2Audio I/O1/1Power1/1Power Supply $36$ VDC, 2.23 A (±25%) Hi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Power Consumption $asic: 30 W$ Max: 48 W (illuminator + PTZ working)Environment-40 °C to +70 °C (-40 °F to +158 °F)Operating Temperature $-40$ °C to +70 °C (-40 °F to +158 °F)Operating Humidity $95\%$ (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection; voltage transient protectionStructure	Analog Output	1 BNC
Audio I/O1/1Power36 VDC, 2.23 A (±25%) Hi-PoEPower Supply36 VDC, 2.23 A (±25%) Mi-PoEPower ConsumptionBasic: 30 W Max: 48 W (illuminator + PTZ working)Environment-Operating remperature-40 °C to +70 °C (-40 °F to +158 °F)Operating Humidity<95% (RH)	RS-485	1 (baud rate range: 1200 bps-9600 bps)
Power   36 VDC, 2.23 A (±25%) Hi-PoE     Power Supply   36 VDC, 2.23 A (±25%) Hi-PoE     Power Consumption   Basic: 30 W Max.: 48 W (illuminator + PTZ working)     Environment   -40 °C to +70 °C (-40 °F to ±158 °F)     Operating Temperature   -40 °C to ±70 °C (-40 °F to ±158 °F)     Operating Humidity   ≤95% (RH)     Protection   IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection     Structure   Ketal     Product Dimensions   415.6 mm × Ф262 mm (16.36" × Ф10.31")	Alarm I/O	7/2
Power Supply $36 VDC, 2.23 A (\pm 25\%) \\ Hi-PoEPower ConsumptionBasic: 30 WMax: 48 W (illuminator + PTZ working)EnvironmentOperatingTemperature-40 °C to +70 °C (-40 °F to +158 °F)Operating Humidity<95\% (RH)ProtectionIP67; TVS 6000 V lightning protection; surge protection;voltage transient protectionStructureKentCasingMetalProduct Dimensions415.6 mm × 0262 mm (16.36" × 010.31")$	Audio I/O	1/1
Power Supply Hi-PoE   Power Consumption Basic: 30 W Max.: 48 W (illuminator + PTZ working)   Environment   Operating Temperature -40 °C to +70 °C (-40 °F to +158 °F)   Operating Humidity ≤95% (RH)   Protection IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection   Structure Ketal   Product Dimensions 415.6 mm × Φ262 mm (16.36" × Φ10.31")	Power	
Power Consumption Max.: 48 W (illuminator + PTZ working)   Environment   Operating Temperature -40 °C to +70 °C (-40 °F to +158 °F)   Operating Humidity ≤95% (RH)   Protection IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection   Structure Casing Metal   Product Dimensions 415.6 mm × Φ262 mm (16.36" × Φ10.31")	Power Supply	
Operating Temperature   -40 °C to +70 °C (-40 °F to +158 °F)     Operating Humidity   ≤95% (RH)     Protection   IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection     Structure   Casing     Product Dimensions   415.6 mm × Φ262 mm (16.36" × Φ10.31")	Power Consumption	
Temperature -40 °C to +/0 °C (-40 °F to +158 °F)   Operating Humidity ≤95% (RH)   Protection IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection   Structure Casing   Product Dimensions 415.6 mm × Φ262 mm (16.36" × Φ10.31")	Environment	
Protection   IP67; TVS 6000 V lightning protection; surge protection; voltage transient protection     Structure   Casing   Metal     Product Dimensions   415.6 mm × Φ262 mm (16.36" × Φ10.31")		-40 °C to +70 °C (-40 °F to +158 °F)
Protection voltage transient protection   Structure Casing Metal   Product Dimensions 415.6 mm × Ф262 mm (16.36" × Ф10.31")	Operating Humidity	≤95% (RH)
Casing     Metal       Product Dimensions     415.6 mm × Φ262 mm (16.36" × Φ10.31")	Protection	
Product Dimensions     415.6 mm × Φ262 mm (16.36" × Φ10.31")	Structure	
	Casing	Metal
Net Weight 10 kg (22.05 lb)	Product Dimensions	415.6 mm × Φ262 mm (16.36" × Φ10.31")
	Net Weight	10 kg (22.05 lb)

Gross Weight

12 kg (26.46 lb)

Ordering Information					
Туре	Model	Description			
4M WizMind PTZ Camera	DH-SD8A440-HNF-PA	4 MP 40x Starlight WizMind Network PTZ Camera, PAL			
	DH-SD8A440N-HNF-PA	4 MP 40x Starlight WizMind Network PTZ Camera, NTSC			
	SD8A440-HNF-PA	4 MP 40x Starlight WizMind Network PTZ Camera, PAL			
	SD8A440N-HNF-PA	4MP 40x Starlight WizMind Network PTZ Camera, NTSC			
Accessories	DC36V/2.23A	Power Adapter			
	PFB306W	Wall Mount Bracket			
	PFA118	Mount Adapter			
	PFB710C	Ceiling Mount Bracket			
	PFA150	Pole Mount Bracket			
	PFB301S-E	Plane Mount Bracket			
	PFA120	Junction Box			
	PFB301C	Ceiling Mount Bracket			
	PFA151	Corner Mount Bracket			

#### Accessories

### Included:



DC36V/2.23A Power Adapter

Optional:

PFA118

Mount Adapter



PFB306W				
Vall Mount				
Bracket				

٧



PFB710C Ceiling Mount Bracket



PFA120 Junction Box

PFB301C Ceiling Mount Bracket

PFB301S-E Plane Mount Bracket



PFA151 Corner Mount

www.dahuasecurity.com





Bracket

PFA150 Pole Mount Bracket





# Wiz Mind | DH-SD8A440-HNF-PA



### Dimensions (mm[inch])



HQ

Rev 002.000 © 2022 Dahua. All rights reserved. Design and specifications are subject to change without notice. The images, specifications and information mentioned in the document are only for reference, and might differ from the actual product.