

# DH-SD5R404GA-HNF

4MP 4x Starlight+ Smart Dual Illumination Network PTRZ Camera



WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS, 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 verticals.

## Series Overview

The SD5R Series camera utilizes advanced PTZ three-axis technology, offering pan, tilt, rotation and zoom functionality that can be easily accessed. Its unique design ensures a straightforward installation and maintenance process, eliminating the need for on-site manual adjustments. In addition, it was specially engineered to allow for setup and maintenance without the need to remove the case, providing protection against lens contamination from fingerprints and more.

## Functions

### Smart Dual Light

Dahua Smart Dual Light technology adopts smart algorithm to detect targets. Usually, the IR illuminator is on at night; when the target appears in the monitoring area, the white light is on, and the camera records the full-color video and information of key events. That is, the camera links snapshot and video with full-color image. When the target is out of the monitoring area, the white light is off and the IR illuminator is on, which reduces light pollution efficiently.

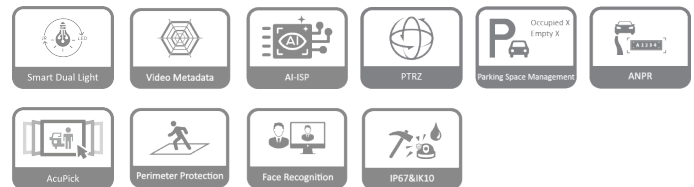
### Video Metadata

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.

### AI-ISP

With AI ISP technology, the camera is able to easily adapt to scenes, producing high quality images that reveal the fine details of targets.

- PTRZ Technology
- IP67&IK10
- 1/1.8" 4Megapixel STARVIS™ CMOS
- 4x optical zoom
- Max. 50/60fps@4M(2560x1440)
- starlight+ technology
- IR&Warm light distance up to 30m
- SMD 4.0
- Perimeter protection
- Face recognition
- Video Metadata
- Privacy Protection: Mosaics can be automatically placed over the face or body of a person to protect their privacy
- Built-in dual MICs; 1-ch speaker; support two-way talk.



### PTRZ

The innovative PTZ triaxial technology improves the efficiency of camera installation and maintenance, enhancing user-friendliness and eliminating the need for on-site manual adjustments.

### Parking Space Management

With Parking Space Management, the camera can count the number of parked vehicles and parking spaces available in open parking lots and planned parking lots. It can extract and display the status of parking spaces, so as to facilitate the management of parking spaces and improve parking efficiency.

### ANPR

With high-performance GPU chip, deep learning algorithm, and lots of sample training learning, Dahua ANPR technology can automatically collect and recognize the vehicle information, including license plate, logo, vehicle type, and vehicle color.

### AcuPick

This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

## Technical Specification

### Camera

Image Sensor	1/1.8" CMOS
Pixel	4 MP
Max. Resolution	2688 (H) × 1520 (V)
ROM	4 GB
RAM	2 GB
Electronic Shutter Speed	1 s–1/30,000 s
Scanning System	Progressive
Min. Illumination	Color: 0.001 lux@F1.0; B/W: 0.0001 lux@F1.0; 0 lux (illuminator on)
Illumination Distance	40 m (131.2 ft) (IR); 40 m (131.2 ft) (warm light)
Illuminator On/Off Control	Zoom Prio; Manual; Auto; Off
Illuminator Number	4 (Dual-core light)

### Lens

Focal Length	2.8 mm–12 mm
Max. Aperture	F1.0-F1.2
Field of View	H: 114.9°–50.3°; V: 61.1°–28.4°; D: 129.3°–56.2°
Optical Zoom	4×
Focus Control	Auto; semi-auto; manual
Close Focus Distance	1 m–2.5 m (3.28 ft–8.20 ft)
Iris Control	Auto

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	W	60.7 m ( 199.15 ft)	24.3 m ( 79.72 ft)	12.1 m ( 39.70 ft)	6.1 m ( 20.01 ft)
	T	128.3 m ( 420.93 ft)	51.3 m ( 168.31 ft)	25.7 m ( 84.32 ft)	12.8 m ( 41.99 ft)
	*DORI (Detect, Observe, Recognize, Identify) is a standard system (EN-62676-4) for defining the ability of a person viewing the video to distinguish persons or objects within a covered area. The numbers in this table do not reflect intelligent function distances. For intelligent function distances, refer to installation and commissioning manual/project design tool.				

### PTZ

Pan/Tilt Range	Pan: 0° to 355°;Tilt: 0° to 90°;Rotate: 0° to 355°
Power-off Memory	Yes

### Intelligence

Video Metadata	Supports detection of motor vehicles, non-motor vehicles, faces and human bodies, optimization, capturing pictures, and uploading high-quality face snapshots.It extracts attributes from motor vehicles and non-motors, detecting up to 10 attributes for motor vehicles and 8 for non-motor vehicles. It also extracts attributes from human faces and bodies, detecting up to 6 attributes for faces, and 8 for bodies ; Privacy Protection.
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IVS (Perimeter Protection)	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving; parking detection; people gathering; vehicle/human alarm classification ; Privacy Protection.
Face Recognition	Supports face detection, optimization, tracking, capturing pictures, uploading high-quality face snapshots, and face enhancement; supports attributes extraction. 6 attributes and 8 expressions; supports face cutout: Face, one-inch photo. Capturing strategies include real-time capturing, optimization, and quality first supports up to 5 face databases; registers person one by one or in batches; sets face similarity; compares faces with 10,000 faces ; Privacy Protection.
People Counting	Uses advanced image processing technology to extract depth information from images. The extracted information is then processed by advanced, deep learning algorithms to analyze and detect human bodies, and track targets in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy ; Privacy Protection.
Parking Space Management	Parking Space Management: Manage outdoor and planned parking lots; manage parking spaces in multiple areas; display the total number of parking spaces and parking spaces that are available; trigger alarms based on a predefined number of vehicles.
ANPR	ANPR: ANPR, track, priority, snapshot. Vehicle attributes: License plate, vehicle type, vehicle color. Other attributes: Seat belt, smoking, calling. Suppor up to 10,000 blacklist records and 10,000 allowlist records. The camera can recognize plate numbers of vehicles moving at speeds of up to 60km/h.
SMD	SMD 4.0
AcuPick	Uses deep learning algorithms and works with backend devices to accurately match targets, such as people and motor vehicles, and search through live and recorded videos to quickly locate targets

### Active Deterrence

Intelligence Type	WizMind
Light Warning	Warm light warning; Flash duration: 5 s–30 s ; Flash frequency: high, medium, low
Sound Warning	Offers 11 sound alarm and 10 custom sound alarms can be imported. Sound can be set from 0%–100%. Play times can be set from 1-10. (Requires external speaker for use)

### Video

Video Compression	H.265; H.264B; H.264; H.264H; MJPEG(Sub Stream 1); Smart H.265+; Smart H.264+
Streaming Capability	5 streams
Resolution	4M (2688 × 1520); 4M (2560 × 1440); 3M (2304 × 1296); 1080p (1920 × 1080); 960p (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA ( 640 × 480); CIF (352 × 288/352 × 240)
Video Frame Rate	Main stream: 4M (2688 × 1520)@(1–25/30 fps); 4M(2560 × 1440)/3M/1080p/1.3M/720p@(1–50/60 fps) Sub stream: D1/VGA/CIF@(1–25/30 fps) Third Stream: 1080p/1.3M/720p@(1–25/30 fps) Fourth Stream: D1/VGA/CIF@(1–25/30 fps) Fifth Stream: D1/VGA/CIF@(1–25/30 fps)

Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 96 Kbps–14,848 Kbps H.265: 38 Kbps–8,960 Kbps
Day/Night	Auto (ICR); Color/B/W
BLC	Yes
WDR	140dB
HLC	Yes
White Balance	Auto; indoor; outdoor; ATW; manual; sodium lamp; natural light; street lamp
Gain Control	Auto; manual; Gain priority
Noise Reduction	2D NR; 3D NR
Motion Detection	Yes
Region of Interest (RoI)	Yes
Image Stabilization	EIS
Defog	Electronic
Digital Zoom	16 ×
Image Rotation	180°
Privacy Masking	Up to 8 areas can be set
S/N Ratio	≥55 dB

## Audio

Audio Compression	PCM; G.711a; G.711Mu; G.726; MPEG2-Layer2; G722.1; G729; G723
Built-in MIC	Yes
Built-in Speaker	Yes

## Network

Network Port	1 × RJ-45 (10/100 Base-T)
Network Protocol	HTTP;HTTPS;TCP/ IP;IPv4;RTSP;UDP;SMTP;NTP;DHCP;DNS;DDNS;IPv6;802.1x;SSL;Qos;FTP;UPnP;ICMP;SNMP;IGMP;ARP;RTCP;RTP;PPPoE;RTMP;Bonjour;SMB;NFS
Interoperability	ONVIF ( Profile S & Profile G & Profile T ) ;CGI;SDK
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth: 64 M)
Storage	Micro SD card (512 GB); FTP/SFTP; NAS
Browser	web5.0: IE 9 and later versions Chrome 41 and later versions Firefox 50 and later versions iOS 10 and later versions
Management Software	DMSS;DSS Pro
Mobile Client	iOS;Android

## Certification

Certifications	CE: EN 50130-4 EN 55032 EN 55035 EN 61000-3-3 EN IEC 61000-3-2 EN 62368-1
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## Port

Analog Output	1 channel (CVBS output, BNC)
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RS-485	1 (Bit range: 1,200 bps–9,600 bps)
Audio Input	1 channel
Audio Output	1 channel
Alarm I/O	2/1
Audio I/O	1/1
Alarm Input	2 channels
Alarm Output	1 channel
Alarm Linkage	Capture; recording; send email; alarm digital input
Alarm Event	Motion/Tampering detection; audio detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection
Cable Length	530 mm (20.87")

## Power

Power Supply	12 VDC, 4 A ± 10% 24 VAC, 3 A ± 25% PoE (802.3at)
Power Output	12 VDC, 0.1 A
Power Consumption	Basic: 7 W (DC); Max.: 16 W (Illuminator + PTZ) (DC) Basic: 7 W (AC); Max.: 16 W (Illuminator + PTZ) (DC) PoE: Basic: 7 W Max: 16 W (Illuminator+PTZ)
Power Adapter	Optional

## Environment

Operating Temperature	–40 °C to +70 °C (–40 °F to +158 °F)
Operating Humidity	≤95%
Protection	IP67;IK10;TVS 6000 V lightning proof; surge protection

## Structure

Casing	ADC12; PC
Product Dimensions	171.5 mm × Φ160.7 mm (6.75" × Φ6.33")
Net Weight	2.4 kg (5.29 lb)
Gross Weight	3.0 kg (6.61 lb)

## Ordering Information

Type	Model	Description
Network PTZ Camera	DH-SD5R404GA-HNF	4MP 4× Starlight+ Smart Dual Illumination Network PTRZ Camera

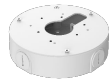
Type	Model	Description
Accessories (Optional)	DH-PFB300C	Ceiling Mount Bracket
	DH-PFA101	Mount Adapter
	DH-PFB303W	Wall Mount Bracket
	DH-PFA151	Corner Mount Bracket
	DH-PFA150	Pole Mount Bracket
	DH-PFA13F-E	Junction Box
	DH-PFB303S	Parapet Mount Bracket
	PFA7775	Rain Cover

## Accessories

Optional:



DH-PFA101  
Mount Adapter



DH-PFA13F-E  
Junction Box



DH-PFA150  
Pole Mount Bracket



DH-PFA151  
Corner Mount Bracket



DH-PFB300C  
Ceiling Mount Bracket



DH-PFB303S  
Parapet Mount Bracket



DH-PFB303W  
Wall Mount Bracket



PFA7775  
Rain Cover

Ceiling Mount	Ceiling Mount	Wall Mount
	DH-PFA101+DH-PFB300C	
Wall Mount	Wall Mount	Pole Mount (Vertical)
DH-PFA7775	DH-PFA101+DH-PFB303W	DH-PFA101+DH-PFB303W+DH-PFA150
Pole Mount (Vertical)	Junction Mount	Corner Mount
DH-PFA101+DH-PFB303W+DH-PFA5510	DH-PFA13F-E	DH-PFA101+DH-PFB303W+DH-PFA151
Parapet Mount		
DH-PFA101+DH-PFB303S		

## Dimensions (mm[inch])

mm [inch]

