

# DHI-NVR4104HS-P-EI

4CH Compact 1U 4PoE 1HDD WizSense Network Video Recorder



WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

## Series Overview

NVR4000-EI series is a new generation of network recorders that offers powerful decoding capabilities, and strong bandwidth. It features high-precision face recognition, perimeter protection, and SMD (Smart Motion Detection), which can distinguish target vehicles and humans from other types in real time. When connected with select IPC cameras, Quick Pick technology becomes available, allowing human and vehicle targets to be easily searched for and picked out. This network recorder is not only cost-effective, but also compatible with a wide variety of third-party devices, making it a great choice for small and medium-sized businesses.

## Functions

### Face Recognition

Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database.

### Perimeter Protection

Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.

- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG decoding format
- Access, storage or forwarding at 80 Mbps
- Max. decoding capability: 16 × 1080p@30 fps. Supports adaptive decoding
- AI by NVR: 1-channel face detection and recognition; 2-channel perimeter protection; up to 10 face databases and 20,000 face images; 4-channel SMD Plus
- AI by Camera: Face detection and recognition, perimeter protection; SMD Plus; people counting; stereo analysis; heat map
- Connected to the third-party network cameras
- Security baseline 2.3



### SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

### AI Search

With AI search, operators can search for videos by the attributes of targets and event types, which helps them to quickly and efficiently investigate where and when targets appeared and events took place.

### Heat Map by Camera

Dahua heat map technology is used to display the crowd density and people appearance probability. Export and display the crowd status by different colors. Generally, the crowd status is the statistics of people quantity in space and time dimensions.

### ANPR by Camera

With deep learning algorithm, Dahua ANPR technology can recognize the number plate information of vehicles in the image with ANPR cameras. Support blacklist/allowlist mode, searching target vehicles from recorded video.

### Quick Pick

Dahua Quick Pick technology can enable users to quickly pick up the human/vehicle targets that they are interested in, which facilitates retrieval from SMD events.

## Technical Specification

### System

Main Processor	Industrial-grade processor
Operating System	Embedded Linux
Operating Interface	Web, Local GUI

### AI

AI by Recorder	Face detection, face recognition, perimeter protection, and SMD Plus;
AI by Camera	Face detection; face recognition; perimeter protection; SMD Plus; ANPR; people counting; stereo analysis; heat map

### Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	2 channels, 10 IVS rules for each channel
Perimeter Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

### Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Recorder (Number of Channels)	1 channel (up to 12 face images/s each channel)
Face Detection Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

### Face Recognition

Face Database Capacity	Up to 10 face databases with 20,000 images, with a total capacity of 2.5 G. Name, gender, birthday, address, credential type, credential No., countries & regions and state can be added to each face image.
Face Recognition Performance of AI by Recorder (Number of Channels)	4-channel FD (by camera) + FR (by recorder), image stream: 12 face images/s 1-channel FD (by recorder) + FR (by recorder), video stream: 12 face images/s
Face Recognition Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

### SMD Plus

SMD Plus by Recorder	4 channels: Secondary filtering for human and motor vehicle, reducing false alarms caused by leaves, rain and lighting condition change
SMD Plus by Camera	All channels (16 targets/s)

### Audio and Video

Access Channel	4 channels
Network Bandwidth	80 Mbps incoming, 80 Mbps recording and 80 Mbps outgoing

Resolution	16 MP; 12 MP; 8 MP; 6 MP; 5 MP; 4 MP; 3 MP; 1080p; 960p; 720p; D1; CIF
Decoding Capability	AI disabled: 2-channel 16 MP@30 fps; 2-channel 12 MP@30 fps; 4-channel 8 MP@30 fps AI enabled: 1-channel 16 MP@30 fps; 2-channel 12 MP@30 fps; 3-channel 8 MP@30 fps; 3-channel 6 MP@30 fps; 4-channel 5 MP@30 fps
Video Output	1 HDMI, 1 VGA HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 *Simultaneous/heterogeneous video sources output for VGA and HDMI is configurable.
Multi-screen Display	1st Screen: 1/4 2nd Screen: 1/4
Third-party Camera Access	Panasonic, Sony, Samsung, Axis, Pelco, Arecont, ONVIF, Canon

### Compression Standard

Video Compression	Smart H.265+; H.265; Smart H.264+; H.264; MJPEG
Audio Compression	G.711a; G.711u; PCM; G726

### Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4/IPv6; UPnP; SNMP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; PPPoE; DDNS; FTP; Alarm Server; IP Search (Support Dahua IP camera; DVR; NVS; etc.); P2P; auto register
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 22.06(Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE9 and later; Firefox

### Recording Playback

Multi-channel Playback	Up to 4 channels
Record Mode	General, motion detection; intelligent; alarm
Backup Method	USB device and network
Playback Mode	Instant playback, general playback, event playback, tag playback, smart playback

### Alarm

General Alarm	Motion detection; privacy masking; video loss; scene changing; PIR alarm; IPC external alarm
Anomaly Alarm	Camera disconnection; storage error; disk full; IP conflict; MAC conflict; login locked; and cybersecurity exception
Intelligent Alarm	Face detection; face recognition; perimeter protection; SMD Plus; people counting; stereo analysis; heat map
Alarm Linkage	Record; snapshot; IPC external alarm output; audio; buzzer; log; preset; email

### Port

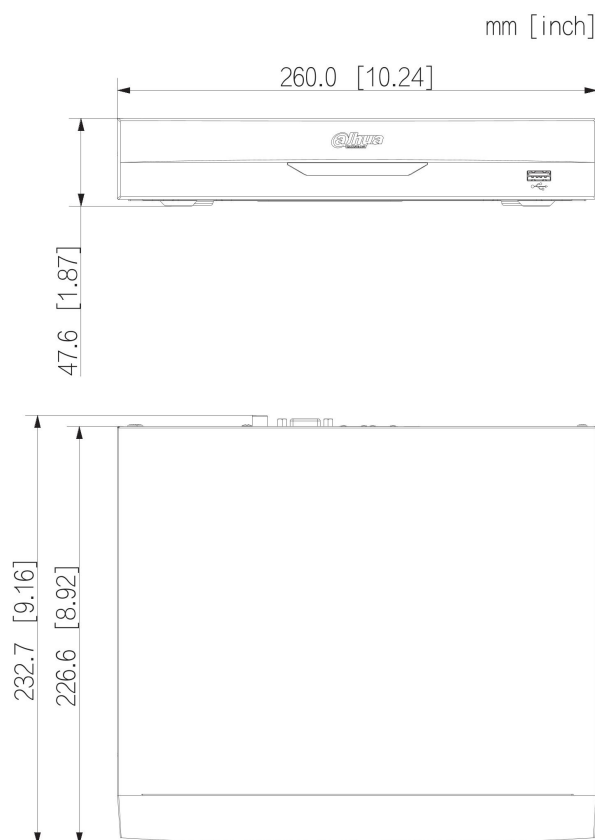
Audio Input	1-channel RCA
Audio Output	1-channel RCA
Disk Interface	1 SATA port, up to 16 TB.The maximum HDD capacity varies with environment temperature.
USB	2 (1 front USB 2.0 port, 1 rear USB 2.0 port)
HDMI	1

VGA	1
Network Port	1 (10/100 Mbps Ethernet port, RJ-45)
PoE Port	4 ports, 10/100 Mbps, IEEE 802.3 af/at

## General

Power Supply	53 VDC, 1.226 A
Power Consumption	Total output of NVR is <10 W(without HDD) Total output power of PoE is 36W,the maximum output power of asingle port is 25.5W
Net Weight	0.86 kg (1.90 lb)
Gross Weight	1.88 kg (4.14 lb)
Product Dimensions	260 mm × 232.7 mm × 47.6 mm (10.24" × 9.16" × 1.87") (W × L × H)
Packaging Dimensions	333 mm × 89 mm × 315 mm (13.11" × 3.50" × 12.40") (W × L × H)
Operating Temperature	−10 °C to +55 °C (14 °F to +131 °F)
Storage Temperature	−20 °C to +60 °C (−4 °F to +140 °F)
Operating Humidity	10%–93% (RH), non-condensing
Installation	Rack or desktop
Certifications	FCC: 47 CFR FCC Part15, SubpartB, Class A CE-EMC: EN 55032:2015+A1:2020; EN IEC 61000-3-2:2019+A1:2021; EN 61000-3-3:2013+A1:2019+A2:2021; EN 55035:2017+A11:2020; EN 50130-4:2011+A1:2014 CE-LVD: EN 62368-1:2014

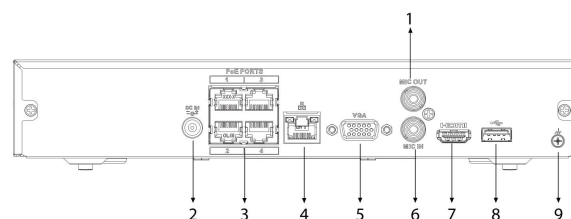
## Dimensions (mm[inch])



## Ordering Information

Type	Model	Description
NETWORK VIDEO RECORDER	DHI-NVR4104HS-P-EI	4CH Compact 1U 4PoE 1HDD WizSense Network Video Recorder

## Panels



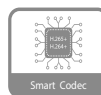
- |                            |                           |
|----------------------------|---------------------------|
| 1 AUDIO OUT, RCA Connector | 2 Power Input             |
| 3 PoE Ports                | 4 Network Port            |
| 5 VGA Port                 | 6 AUDIO IN, RCA Connector |
| 7 HDMI Port                | 8 USB Port                |
| 9 Ground                   |                           |

# DH-IPC-HDW1830T-S6

8MP Entry IR Fixed-focal Eyeball Network Camera



- 8MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 8MP (3840 × 2160) @15 fps and supports 2688 × 1520 (2688 × 1520) @25/30 fps
- H.265 codec, high compression rate, and ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 30 m.
- ROI, SMART H.264 +/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, DWDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Abnormality detection: Motion detection, video tampering, audio detection, network disconnection, IP conflict, and illegal access.
- Built-in MIC.
- 12 V DC/PoE power supply.
- IP67 protection.



## Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from comprising the device.

## Protection (IP67, wide voltage)

**IP67:** The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normal after soaking in 1 m deep water for 30 minutes.

**Wide voltage:** The camera allows  $\pm 30\%$  (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Series Overview

With features of simple installation, easy operation, and high performance-cost ratio, Dahua Entry series network camera is applicable to small and medium-sized scenes, such as homes/residences, small-sized retail stores, and other small and medium-sized enterprises.

## Functions

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

### Motion Detection

When moving objects appear in the monitoring image, Dahua Motion Detection (General) technology triggers alarm or records.

### Smart Illumination

Dahua Smart Illumination technology can display image in the environment of low illuminance or completely dark environment. According to the distance of the targets, the camera adjusts illuminations intensity automatically to display the details of the moving target.

### Image Flip

For narrow and long scenes, Dahua image flip technology flips the image by 90°/180°/270° to realize better surveillance in rotation mode.

Technical Specification					
Camera					
Image Sensor		1/2.7" CMOS			
Max. Resolution		3840 (H) × 2160 (V)			
ROM		16 MB			
RAM		256 MB			
Scanning System		Progressive			
Electronic Shutter Speed		Auto/Manual 1/3 s–1/100,000 s			
Min. Illumination		0.04 Lux@F2.0 (Color, 30 IRE) 0.004 Lux@F2.0 (B/W, 30 IRE) 0 Lux (Illuminator on)			
S/N Ratio		> 56 dB			
Illumination Distance		30 m (98.43 ft) (IR)			
Illuminator On/Off Control		Auto/Manual			
Illuminator Number		1 (IR LED)			
Pan/Tilt/Rotation Range		Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°			
Lens					
Lens Type		Fixed-focal			
Lens Mount		M12			
Focal Length		2.8 mm; 3.6 mm			
Max. Aperture		2.8 mm: F2.0 3.6 mm: F2.0			
Field of View		2.8 mm: Horizontal: 105°; Vertical: 56°; Diagonal: 125° 3.6 mm: Horizontal: 87°; Vertical: 47°; Diagonal: 104°			
Iris Control		Fixed			
Close Focus Distance		2.8 mm: 1.0 m (3.28 ft) 3.6 mm: 1.9 m (6.23 ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	74.7 m (245.08 ft)	29.9 m (98.10 ft)	14.9 m (48.88 ft)	7.5 m (24.61 ft)
	3.6 mm	106.7 m (350.07 ft)	42.7 m (140.09 ft)	21.3 m (69.88 ft)	10.7 m (35.10 ft)
Video					
Video Compression		H.265; H.264; H.264B; MJPEG (only supported by the sub stream)			
Smart Codec		Smart H.265+; Smart H.264+			
Video Frame Rate		Main stream: 3840 × 2160 (1 fps–15 fps) 2688 × 1520 (1 fps–25/30 fps) Sub stream: 704 × 576 (1 fps–25 fps) 704 × 480 (1 fps–30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.			
Stream Capability		2 streams			
Resolution		3840 × 2160 (3840 × 2160); 3072 × 2048 (3072 × 2048); 3072 × 1728 (3072 × 1728); 2592 × 1944 (2592 × 1944); 2688 × 1520 (2688 × 1520); 3M (2048 × 1536); 2304 × 1296 (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)			

Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–8192 kbps H.265: 12 kbps–8192 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	DWDR
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto; manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Smart Illumination	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)
Mirror	Yes
Privacy Masking	4 areas
Audio	
Built-in MIC	Yes
Audio Compression	G.711a; G.711Mu; G.726; PCM
Alarm	
Alarm Event	Network disconnection; IP conflict; illegal access; motion detection; video tampering; audio detection; security exception
Network	
Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Cyber Security	Video encryption; configuration encryption; Digest; WSSE; account lockout; security logs; generation and importing of X.509 certification; HTTPS; trusted boot; trusted execution; trusted upgrade
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; SMTP; FTP; DHCP; DNS; DDNS; NTP; Multicast
Interoperability	ONVIF (Profile S/Profile T); CGI; P2P; Genetec; Milestone
User/Host	6 (Total bandwidth: 48 M)
Storage	FTP
Browser	IE Chrome Firefox
Management Software	Smart PSS; DSS; DMSS
Mobile Client	iOS; Android
Certification	
Certifications	CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B

Power

Power Supply	12V DC/PoE (802.3af)
Power Consumption	Basic: 2.3 W (12V DC); 3.1 W (PoE) Max. (ICR + H.265 + max. resolution + main stream + DWDR + IR intensity): 4.6 W (12V DC); 5.6 W (PoE)

Environment

Operating Temperature	−40 °C to +55 °C (−40 °F to 131 °F)
Operating Humidity	≤ 95%
Storage Temperature	−40 °C to +55 °C (−40 °F to 131 °F)
Protection	IP67

Structure

Casing	Metal
Product Dimensions	85.6 mm × Φ94.0 mm (3.4" × Φ3.7")
Net Weight	0.32 kg (0.71 lb)
Gross Weight	0.43 kg (0.95 lb)

Ordering Information

Type	Model	Description
8MP Camera	DH-IPC-HDW1830T-S6	8MP Entry IR Fixed-focal Eyeball Network Camera
Accessories (optional)	PFA13A-E	Junction Box
	PFA130-E	IP66 Junction Box
	PFB204W	Wall Mount Bracket
	PFA152-E	Pole Mount Bracket

Accessories

Optional:



PFA13A-E  
Junction Box



PFA130-E  
IP66 Junction Box



PFB204W  
Wall Mount Bracket



PFA152-E  
Pole Mount Bracket

Ceiling Mount	Wall Mount	Pole Mount (Vertical)

Dimensions (mm[inch])

