# DHI-NVR4104HS-P-AI/ANZ

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



- Supports Smart H.265+, H.265, Smart H.264+, H.264 and MJPEG decoding formats.
- Max. 80 Mbps incoming/recording/outgoing bandwidth.
- Max. decoding capability: 16 × 1080p@30 fps or 4 × 8 MP@30 fps.
- Supports IP cameras with a resolution up to 16 MP.
- AI by Recorder supports 1-channel face detection and recognition, 2-channel perimeter protection, up to 10 face databases and 20,000 face images, 4-channel SMD.
- AI by Camera supports face detection and recognition, perimeter protection, SMD, people counting, stereo analysis, heat map.
- Supports EPTZ, and one-click arming and disarming.




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-AI/ANZ 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 Detection

Face detection is to detect if there is any human face appearing in the video. This technology adopts a deep learning algorithm to support face detection, tracking, optimization and capturing, and then output the best face snapshot.

### 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.

### 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 blocklist/allowlist mode, searching target vehicles from recorded video.



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## 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 |
| AI by Camera | Face detection; face recognition; perimeter protection; SMD; 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<br>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 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;720p;960p;D1;CIF |
| Decoding Capability | AI disabled: 2-channel 16 MP@30 fps; 2-channel 12 MP@30 fps; 4-channel 8 MP@30 fps<br>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<br>HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720<br>VGA: 1920 × 1080, 1280 × 1024, 1280 × 720<br>*Simultaneous/heterogeneous video sources output for VGA and HDMI is configurable. |
| Multi-screen Display | 1st Screen: 1/4<br>2nd Screen: 1/4 |
| Third-party Camera Access | Panasonic, Sony, Hanwha, 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; RTSP; 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 Registration |
| Mobile Phone Access | iOS; Android |
| Interoperability | ONVIF 23.12(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 | Error (no disk; disk error; low space; low quota space; abnormal disk health; network disconnection; IP conflict; MAC conflict); video loss; video tampering; camera offline; audio detection |
| 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 20 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 |



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| | |
|---|---|
| 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 | < 10 W (without HDD)<br>Total maximum output power of PoE is 45 W, the maximum output power of a single port is 25.5 W |
| 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 × D × 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 |
| Certifications | FCC: 47 CFR FCC Part15, SubpartB, Class A<br>CE-EMC: EN 55032:2015+A1:2020;<br>EN IEC 61000-3-2:2019+A1:2021;<br>EN 61000-3-3:2013+A1:2019+A2:2021; EN 55035:2017+A11:2020; EN 50130-4:2011+A1:2014<br>CE-LVD: EN 62368-1:2014 |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| NETWORK VIDEO RECORDER | DHI-NVR4104HS-P-AI/ANZ | 4CH Compact 1U 4PoE 1HDD WizSense Network Video Recorder |
| Accessories (Optional) | PFH101 | PFH101-DH920C1 |

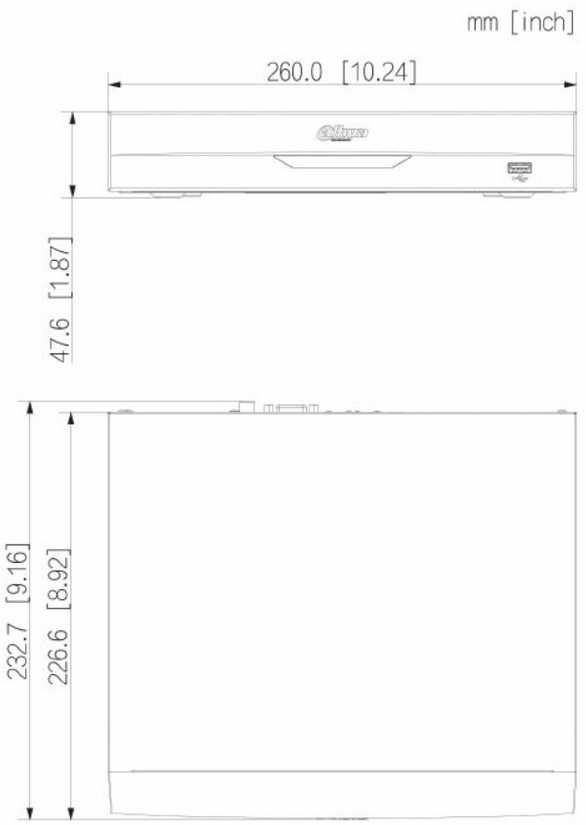
## Accessories

Optional:

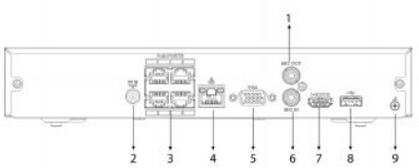


PFH101
PFH101-DH920C1

## Dimensions (mm[inch])




## 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 | | |

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