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# DHI-NVR2104HS-P-I

4 Channel Compact 1U 4PoE WizSense Network Video Recorder



Wiz Sense

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.

## System Overview

This AI network video recorder is a highly cost-effective economical product, providing functions such as local live view, multi-screen display, real-time storage on local HDD, fast operation by mouse, and remote management and control. This product is suitable for face detection and recognition at entrances/exits, and perimeter protection of people and vehicles.

## Functions

### New User Interface

Local and web interfaces adopt the new UI 4.0 style which caters to users habits. Functional modules are divided more clearly and easier to understand.

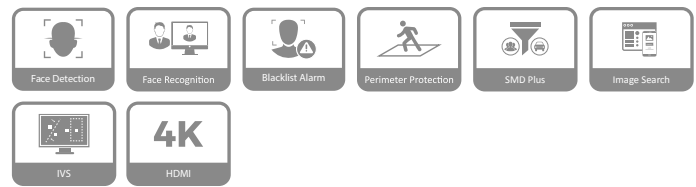
### Decoding (Smart H.265+/Smart H.264+)

Dahua smart encoding (H.265+/ H.264+) is the optimized implementation of (H.265/H.264) codec that uses a scene-adaptive code rate control algorithm, providing more efficiency in the encoding process and higher video quality, and reducing the cost of storage and transmission significantly. This NVR supports the corresponding decoding.

### SMD Plus

SMD Plus, referred to as Smart Motion Detection Plus, which is an upgrading version of SMD that greatly improves the alarm accuracy by loading deep-learning algorithm. It analyzes person and vehicle shapes based on motion detection and sends alarms only when person or vehicle intrudes.

- New 4.0 user interface
- Remote surveillance, live view and video play on mobile phone App
- Max. decoding capability: 4x1080P@30fps. Supports adaptive decoding
- Supports mainstream cameras of ONVIF and RTSP protocols
- H.264/.H265/Smart H.264+/Smart H.265+/MJPEG, H.265 auto switch
- 1 VGA/1 HDMI simultaneous video output by default, the maximum resolution of HDMI is 4K; and non-simultaneous video output is also supported, the maximum resolution is 1080P
- 1-channel face detection and recognition (AI by NVR); or 2-channel perimeter detection (AI by NVR); or 4-channel SMD (AI by NVR); up to 10 face databases and 5,000 face images
- All-channel AI by camera: face detection and comparison, perimeter protection and SMD
- Security baseline 2.1



### 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

Face recognition is to figure out the captured face with target features, and compare them with the face database to identify the personnel.

### Perimeter Protection

Based on the deep learning algorithm, perimeter protection provides accurate human and vehicle classification detection. It greatly reduces false alarms by smartly detecting behaviors such as tripwire and intrusion according to the detected object in restricted areas (e.g., for human or vehicle) .

## Technical Specification

### System

|                     |                                     |
|---------------------|-------------------------------------|
| Main Processor      | Industrial-grade embedded processor |
| Operating System    | Embedded Linux                      |
| Operation Interface | Web/operating in local GUI          |

### Video

|                           |   |
|---------------------------|---|
| Access Channel            | 4 channels  |
| Network Bandwidth         | 80 Mbps for access, 80 Mbps for storage and 60 Mbps for forwarding.                     |
| Resolution                | 12M/8M/5M/4M/3M/2M/720P/D1  |
| Decoding Capability       | 1ch 8MP@30fps<br>4ch 1080P@30fps  |
| Video Output              | 1 VGA/1 HDMI simultaneous video output by default, the maximum resolution of HDMI is 4K |
| Multi-screen Display      | 1/4   |
| Third Party Camera Access | Onvif, RTSP   |

### Compression

|       |   |
|-------|---|
| Video | H.264/H.265/Smart H.264+/Smart H.265+/MJPEG |
| Audio | PCM/G711A/G711U/G26/AAC                     |

### Network

|                     |  |
|---------------------|--|
| Network Protocol    | HTTP, HTTPS, TCP/IP, IPv4, IPv6, RTSP, UDP, NTP, DHCP, DNS |
| Mobile Phone Access | Android, iOS   |
| Interoperability    | ONVIF (profile T/profile S/profile G), CGI, SDK            |
| Browser             | Chrome, IE9 or above, Firefox                              |

### Record Playback

|                        |  |
|------------------------|--|
| Multi-channel Playback | Up to 4 channels playback  |
| Record Mode            | Priority of record mode: Manual recording > alarm recording > motion detection recording > timed recording                                     |
| Storage                | Local HDD and network  |
| Backup                 | USB device   |
| Playback Function      | 1. Play, pause, stop, fast forward, fast backward, rewind, play by frame<br>2. Full screen, backup (cut/file), partially enlarge, audio on/off |

### SMD Plus

|             |  |
|-------------|--|
| Performance | 4 channels                                       |
| AI Search   | Search by target classification (Human, Vehicle) |

### Face Recognition

|               |   |
|---------------|---|
| Performance   | Max 8 face pictures/sec processing  |
|               | 1 channel video stream face recognition   |
| Stranger Mode | Detect strangers' faces (not in device's face database). Similarity threshold can be set manually.          |
| AI Search     | Up to 8 target face images search at same time, similarity threshold can be set for each target face image. |

|                      |   |
|----------------------|---|
| Database Management  | Up to 10 face databases with 5,000 face images in total. Name, gender, birthday, address, certificate type, certificate No., countries&regions and state can be added to each face picture. |
| Database Application | Each database can be applied to video channels independently.   |
| Trigger Events       | Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc.  |
| Alarm Linkage        | Video recording, snapshot, log, preset, tour  |

### Perimeter Protection

|                       |  |
|-----------------------|--|
| Performance           | 2 channels   |
| Object classification | Human/Vehicle secondary recognition for tripwire and intrusion |
| AI Search             | Search by target classification (Human, Vehicle)               |

### Alarm

|               |  |
|---------------|--|
| General Alarm | Motion detection, privacy masking, video loss, PIR alarm, IPC alarm  |
| Anomaly Alarm | Front-end device going offline, storage error, full storage, IP conflict, MAC conflict, login lock, network security anomaly |
| Alarm Linkage | Video recording, snapshot, log, preset, tour   |

### External Port

|            |   |
|------------|---|
| HDD        | 1 SATA port, up to 8 TB. The maximum HDD capacity varies with environment temperature |
| USB        | 1 front USB 2.0 port, 1 rear USB 2.0 port   |
| HDMI       | 1   |
| VGA        | 1   |
| Network    | 1 RJ-45 port (10/100 Mbps), 4 RJ-45 ports with PoE power supply (10/100 Mbps)         |
| RCA Input  | 1   |
| RCA Output | 1   |

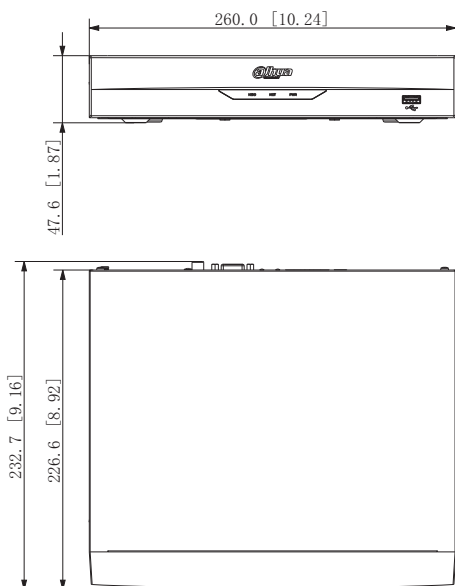
### General Parameter

|                       |   |
|-----------------------|---|
| Power Supply          | DC53V, 1.13A  |
| Power Consumption     | Total output of NVR is ≤ 10W (without HDD) Total output power of PoE is 38W, the maximum output power of a single port is 25.5W |
| Net Weight            | 0.86 kg (1.90 lb)   |
| Gross weight          | 1.86 kg (4.10 lb)   |
| Product Dimensions    | 260 mm × 232.7 mm × 47.6 mm (W × L × H)<br>10.24 inch × 9.16 inch × 1.87 inch (W × L × H)                                       |
| Package Dimensions    | 117 mm × 373 mm × 307 mm (W × L × H)<br>4.61 inch × 14.69 inch × 12.09 inch (W × L × H)   |
| Operating Temperature | -10°C to 55°C (+14°F to +113°F)   |
| Storage Temperature   | 0°C to 40°C (+32°F to +104°F)   |
| Operating Humidity    | 10%–93%   |
| Storage Humidity      | 30%–85%   |
| Operating Altitude    | 3000 m (9843 ft)  |
| Installation          | Desktop mounting  |
| Certifications        | CE/FCC  |

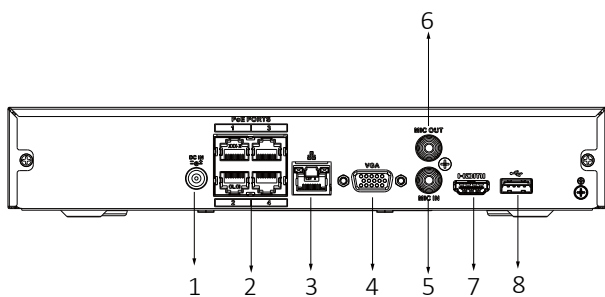
### Ordering Information

| Type                      | Model             | Description  |
|---------------------------|-------------------|--|
| 4 Channel<br>WizSense NVR | DHI-NVR2104HS-P-I | 4 Channel Compact 1U 4PoE<br>WizSense Network Video Recorder |

### Dimensions (mm[inch])



### Panels



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