Manuals+ — User Manuals Simplified.

dahua NVR4104 4CH Smart 1U 1HDD WizSense Network Video Recorder Owner's Manual

Contents

dahua NVR4104 4CH Smart 1U 1HDD WizSense Network Video Recorder

Specifications

- Product: DHI-NVR4104-EI
- Type: 4CH Smart 1U 1HDD WizSense Network Video Recorder
- Operating System: Embedded Linux
- Interface: Web, Local GUI
- Main Processor: Industrial-grade processor

Product Usage Instructions

Installation

1. Choose a suitable location for the NVR that is well-ventilated and away from direct sunlight.
2. Connect the NVR to power and to your surveillance cameras using Ethernet cables.
3. Access the NVR interface through a web browser or local GUI for initial setup.

Setting up Face Recognition
To utilize Face Recognition feature:

1. Create face databases with up to 20,000 images containing attributes such as gender, age group, and expressions.
2. Configure the NVR to compare captured faces with the database for identification.

Perimeter Protection and SMD Plus
To enable Perimeter Protection and SMD Plus:

1. Set up rules for filtering out false alarms and categorizing motion detection targets.
2. Adjust settings to improve alarm accuracy and reduce unnecessary notifications.

AI Search and Heat Map
To utilize AI Search and Heat Map features:

1. Use AI search to quickly find videos based on target attributes and event types.
2. Display crowd density and people appearance probability using the heat map technology.

ANPR by Camera and Quick Pick
To benefit from ANPR by Camera and Quick Pick:

1. Enable ANPR technology to recognize vehicle number plates with blocklist/allowlist modes.
2. Quickly pick human/vehicle targets of interest for easy retrieval from SMD events.

Series Overview
Dahua Lite series NVR is easy to install, cost effective and compatible with a wide variety of third-party devices, providing a great solution for small and medium surveillance systems. It is ideal for home safety, supermarkets, warehouses, educational institutions, and financial institutions.

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.

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.

- 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

Face Detection | Face Recognition | Perimeter Protection | SMD Plus | IVS | Heat Map

ANPR | People Counting | Quick Pick

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.

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)** 1channel (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 atotal 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 byCamera (Number of Channels)** All channels (8 targets/s)

SMD Plus

- **SMD Plus by Recorder** 4 channels: Secondary filtering for human and motorvehicle, 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 (2 rear USB 2.0 ports)
- **HDMI** 1
- **VGA** 1
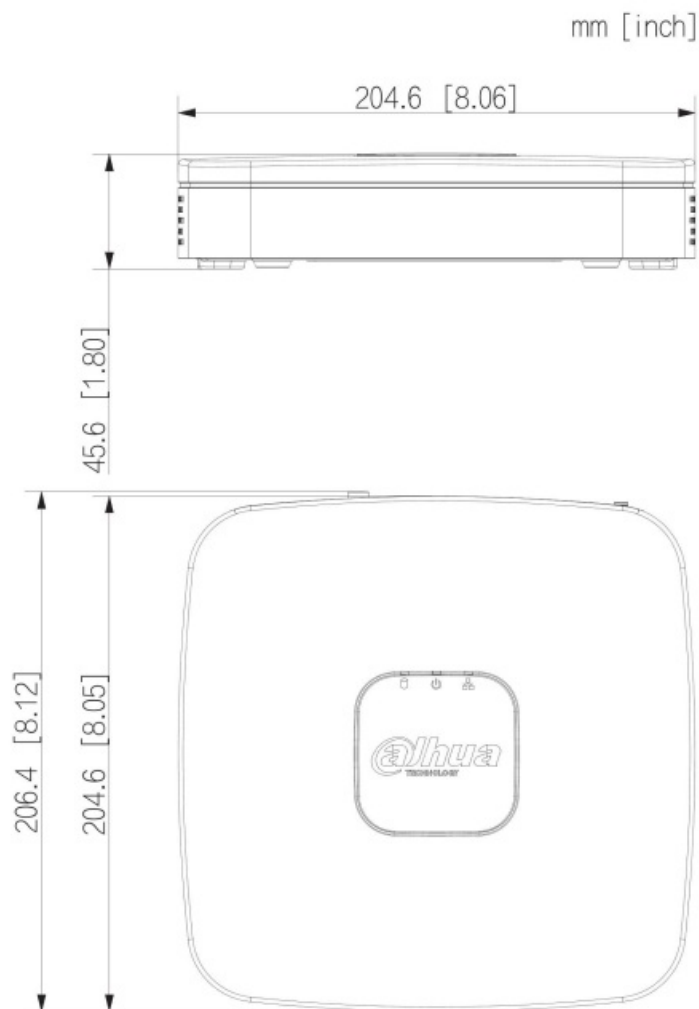- **Network Port** 1 (10/100 Mbps Ethernet port, RJ-45)

General

- **Power Supply** 12 VDC, 2 A
- **Power Consumption** <10 W(without HDD)
- **Net Weight** 0.45 kg (0.99 lb)
- **Gross Weight** 1.07 kg (2.36 lb)
- **Product Dimensions** 204.6 mm × 206.4 mm × 45.6 mm (8.06″ × 8.12″ × 1.80″) (W × L × H)
- **Packaging Dimensions** 364 mm × 96 mm × 261 mm (14.33″ × 3.78″ × 10.26″) (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 ACE-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
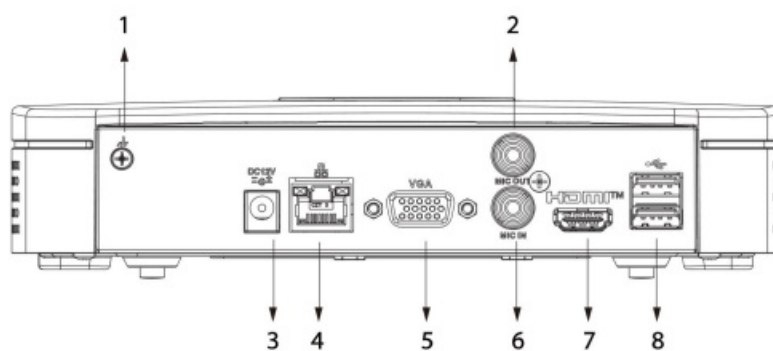
Ordering Information

- **Type**
    - Model
        - Description
- **NETWORK VIDEO RECORDER**
    - DHI-NVR4104-EI
        - 4CH Smart 1U 1HDDWizSense Network Video Recorder

Dimensions (mm[inch])

mm [inch]

204.6 [8.06]

45.6 [1.80]

206.4 [8.12]

204.6 [8.05]

Panels

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

document are for reference only, and the actual product shall prevail.

www.dahuasecurity.com

FAQs

Q: Can I add more face databases to the NVR?
A: Yes, you can add up to 10 face databases with a total capacity of 2.5 G, each containing up to 20,000 images.
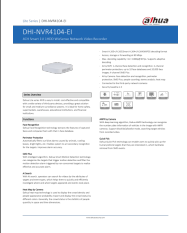
Q: How many IVS rules can be set for Perimeter Protection AI by Recorder?
A: You can set up to 10 IVS rules for each of the 2 channels available for Perimeter Protection AI by Recorder.

Q: What is the Face Detection performance of AI by Camera?
A: The Face Detection performance allows for detecting up to 12 face images per second on all channels.

Documents / Resources

[dahua NVR4104 4CH Smart 1U 1HDD WizSense Network Video Recorder](#) [pdf] Owner's Manual
NVR4104 4CH Smart 1U 1HDD WizSense Network Video Recorder, NVR4104, 4CH Smart 1U 1HDD WizSense Network Video Recorder, 1HDD WizSense Network Video Recorder, Network Video Recorder, Video Recorder, Recorder

References

- **[Dahua Technology - World Leading Video-Centric AIoT Solution & Service Provider](#)**
- **[User Manual](#)**

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