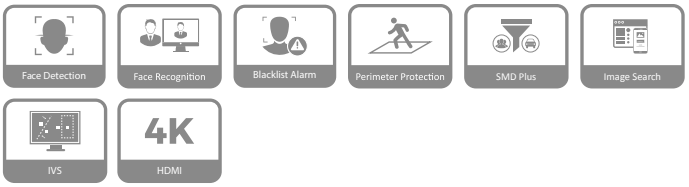
DHI-NVR2104HS-P-I

4 Channel Compact 1U 4PoE WizSense Network Video Recorder

- New 4.0 user interface
- Remote surveillance, live view and video play on mobile phone App
- Max. decoding capability: 4×1080P@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

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.

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 grealy 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 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/.H265/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 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, cerificate 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

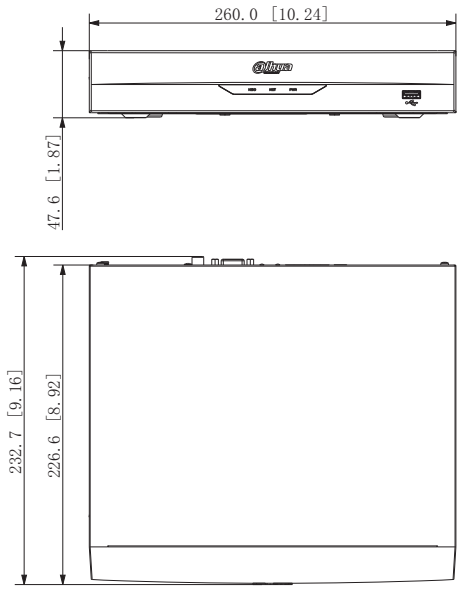
General Parameter

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) 10.24 inch × 9.16 inch × 1.87 inch (W × L × H)
Package Dimensions	117 mm × 373 mm × 307 mm (W × L × H) 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

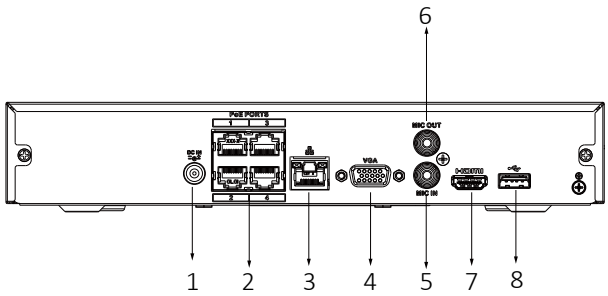
Ordering Information

Type	Model	Description
4 Channel WizSense NVR	DHI-NVR2104HS-P-I	4 Channel Compact 1U 4PoE 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

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