

# ZS-NVR32-V2-4H

32 Channel 1.5U 4HDDs WizSense Network Video Recorder



WizSense

Launched by PADMAX 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

This AI network video recorder is a highly cost-effective 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 and exits, and perimeter protection of people and vehicles.

## 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

PADMAX Face Recognition technology extracts the features of captured faces and compares them with those in face database to recognize the person identity.

### Perimeter Protection

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

- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG decoding format
- Access, storage or forwarding at 256 Mbps (160 Mbps when AI function enabled)
- Max. decoding capability: 10 × 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; ANPR; people counting; stereo analysis; heat map
- Security baseline 2.1



### SMD Plus

With intelligent algorithm, PADMAX 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

Support AI search by metadata of different targets or uploading face pictures to device and comparing them with recorded faces by similarity. Enable operators to quickly and easily search through multi channels and long duration, efficiently find out when and where a person of interest appeared.

### Smart Fan

The NVR is equipped with a smart fan to achieve high cooling efficiency. It automatically turns on or turns off according to CPU and ambient temperature. The fan is long-lasting and low noise, reducing maintenance costs and improving the user experience.

## Technical Specification

### System

Main Processor	Industrial-grade embedded processor
Operating System	Embedded Linux
Operation Interface	Web; local GUI

### AI

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

### Perimeter Protection

Perimeter Performance AI by Device (Number of Channels)	2
Perimeter Performance of AI by Camera (Number of Channels)	8

### Face Detection

Face Attributes	6 attributes: Gender; age group (6); glasses; expressions (8); mouth mask; beard
Face Detection Performance of AI by Device (1080P) (Number of Channels)	1 (up to 12 face images/second)
Face Detection Performance of AI by Camera (Number of Channels)	8

### Face Recognition

Face Database Capacity	Up to 10 face databases with 20,000 images
Face Recognition Performance of AI by Device (1080P) (Number of Channels)	1 (up to 4 face images/second)
Face Recognition Performance of AI by Camera (Number of Channels)	8

### SMD Plus

SMD Plus by Device	4
SMD Plus by Camera	16-channel SMD Plus (AI by camera): Detects tripwire and intrusion of human or vehicle; filters false alarms caused by leaves, raindrops and change of brightness away

### ANPR

ANPR by Camera	4
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### Video

Access Channel	32 channels
Network Bandwidth	AI off: Access: 256 Mbps; Storage: 256 Mbps; Forward: 256 Mbps AI on: Access: 160 Mbps; Storage: 160 Mbps; Forward: 160 Mbps
Resolution	16MP; 12MP; 8MP; 5MP; 4MP; 3MP; 2MP; 720p; D1

### Decoding Capability

AI off: 1 channel × 16MP@20 fps; 1 channel × 12MP@20 fps; 2 channels × 8MP@30 fps; 4 channels × 5MP@30 fps; 5 channels × 4MP@30 fps; 10 channels × 1080p@30 fps  
AI on: 1 channel × 16MP@20 fps; 1 channel × 12MP@20 fps; 2 channels × 8MP@30 fps; 3 channel × 5MP@30 fps; 4 channels × 4MP@30 fps ; 8 channels × 1080p@30 fps

### Video Output

1-ch VGA output and 1-ch HDMI output; simultaneous/heterogeneous video sources output for VGA and HDMI is configurable

### Multi-screen Display

1st Screen: 1/4/8/9/16/25/36  
2nd Screen: 1/4/8/9

### Third Party Camera Access

Panasonic; Sony; Samsung; Axis; Pelco; Arecont; ONVIF; Canon; RTSP

### Compression

Video Smart H.265+; Smart H.264+; H.265; H.264; MJPEG

Audio PCM; G.711A; G.711U; G.726

### Network

Network Protocol HTTP; HTTPS; TCP/IP; IPv4/IPv6; UPnP; SNMP; RTSP; 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 Android; iOS

Interoperability ONVIF(profile T/S/G); CGI; SDK

Browser Chrome; IE9 or later; firefox

### Record Playback

Multi-channel Playback Up to 16 channels

Record Mode Manual; schedule (general; MD; alarm; MD & alarm; intelligent)

Storage Method Local HDD; 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

### 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

### External Port

HDD 4 SATA ports, up to 10 TB. The maximum HDD capacity varies with environment temperature

USB 1 front USB 2.0 port, 1 rear USB 3.0 port

HDMI 1 (max. resolution: 4K)

VGA 1

Network 2 RJ-45 10/100/1000 Mbps self-adaptive Ethernet ports

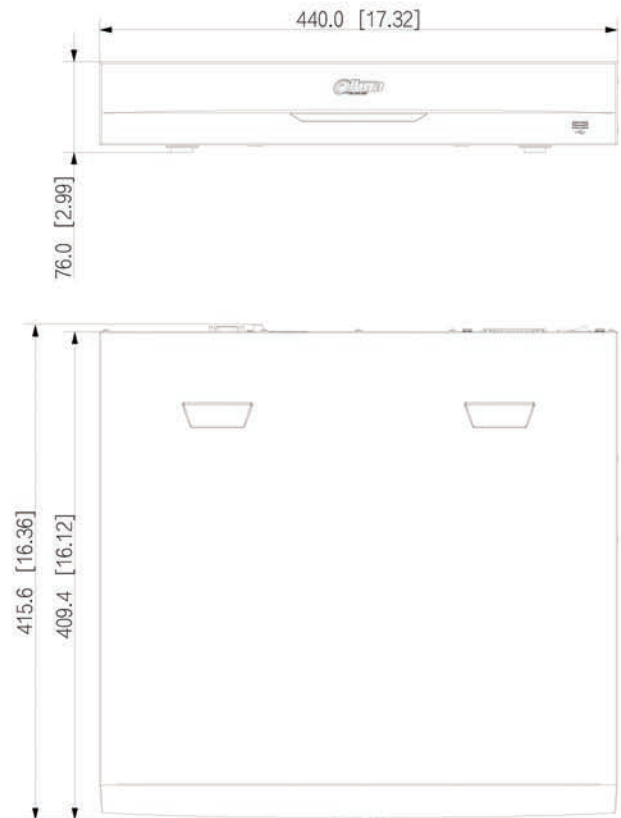
RCA Input 1

RCA Output	1
Alarm Input	16
Alarm Output	4
RS-232	1 channel, used to debug and pass through serial data
RS-485	1 channel, used to control PTZ, and it supports multiple protocols

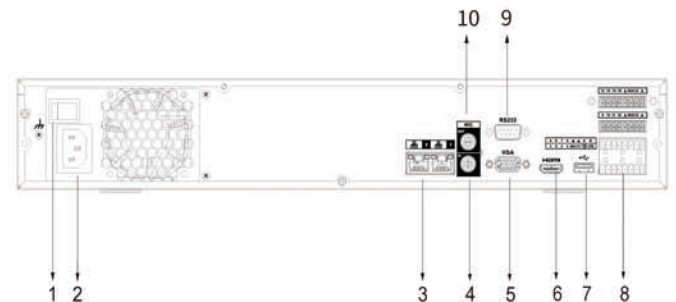
### General Parameter

Power Supply	Single, 100 V–240 V AC, 50 Hz–60 Hz
Power Consumption	Total output of NVR is ≤ 8 W (without HDD)
Net Weight	4.25 kg (9.35 lb)
Gross Weight	6.48 kg (14.41 lb)
Product Dimensions	440.0 mm × 415.6 mm × 76.0 mm (17.32" × 16.36" × 2.99") (W × L × H)
Package Dimensions	529.0 mm × 499.0 mm × 211.0 mm (20.83" × 19.65" × 9.31") (W × L × H)
Operating Conditions	-10 °C to +55 °C (+10 °F to +131 °F)
Storage Conditions	0 °C to +40 °C (32 °F to 104 °F)
Operating Humidity	10%–93%
Storage Humidity	30%–85%
Operating Altitude	3,000 m (9,843 ft)
Installation	Desktop/Rack mount
Certifications	FCC:47 CFR FCC Part15,SubpartB,Class A CE-EMC:EN 55032:2015,Class A;EN IEC 61000-3-2:2019;EN 61000-3-3:2013+A1:2019;EN 55024:2010+A1:2015;EN 55035:2017;EN 50130-4:2011+A1:2014 CE-LVD:EN 62368-1:2014+A11:2017

### Dimensions (mm[inch])



### Panels



- |                 |                             |
|-----------------|-----------------------------|
| 1 Power Switch  | 2 Power Input               |
| 3 Network Ports | 4 AUDIO IN, RCA Connector   |
| 5 VGA Port      | 6 HDMI Port                 |
| 7 USB Port      | 8 Alarm In/Out              |
| 9 RS-232 Port   | 10 AUDIO OUT, RCA Connector |

### Ordering Information

Type	Model	Description
32 Channel WizSense NVR	ZS-NVR32-V2-4H	32 Channel 1.5U 4HDDs WizSense Network Video Recorder