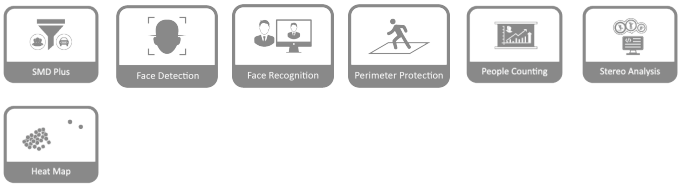
DHI-NVR4116-4KS3

16CH Smart 1U 1HDD Lite Network Video Recorder



- Supports Smart H.265+, H.265, Smart H.264+, H.264 and MJPEG decoding formats.
- Max. decoding capability: 8 × 1080p@30 fps or 2 × 8 MP@30 fps.
- Max. 160/160/80 Mbps incoming/recording/outgoing bandwidth.
- Supports IP cameras with a resolution up to 12 MP.
- AI by Recorder supports 4-channel SMD Plus.
- AI by Camera supports face detection and recognition, perimeter protection, SMD Plus, people counting, stereo analysis and heat map.
- Supports EPTZ, and one-click arming and disarming.



Series Overview

The NVR4000-4KS3 model of the Lite Series NVR is favored for its outstanding performance. It supports 4K resolution for scenes that require highly detailed images, and can serve as the edge, central, or backup storage with an intuitive shortcut menu for remote management and control. This NVR also features Smart Motion Detection (SMD) by recorder, which can distinguish target vehicles and humans from ordinary ones in real-time. When an IPC is connected to the NVR, a variety of AI functions become available such as face detection, perimeter protection, and people counting. This NVR is both cost-effective and easy-to-install, making it ideal for a wide range of applications such as for cities, transportation, education and finance.

Functions

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.

Face Detection by Camera
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 by Camera
Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database.

Perimeter Protection by Camera
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.

Stereo Analysis by Camera
With deep learning algorithm and 3-dimensional scene information, Dahua Stereo Analysis technology can recognize people's behaviors, such as fall detection, violence detection, stay detection, and space exception, and then generates alarm signals and triggers linkage.

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.

Technical Specification

System

Main Processor	Industrial-grade processor
Operating System	Embedded Linux
Operating Interface	Web, Local GUI

AI

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

Perimeter Protection

Perimeter Performance of AI by Camera (Number of Channels)	6 channels

Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Camera (Number of Channels)	6 channels

Face Recognition

Face Recognition Performance of AI by Camera (Number of Channels)	6 channels

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 Plus by Camera	6 channels

Audio and Video

Access Channel	16 channels
Network Bandwidth	AI disabled: 160 Mbps incoming, 160 Mbps recording and 80 Mbps outgoing AI enabled: 80 Mbps incoming, 80 Mbps recording and 60 Mbps outgoing
Resolution	12 MP; 8 MP; 6 MP; 5 MP; 4 MP; 3 MP; 1080p; 960p; 720p; D1; CIF; QCIF
Decoding Capability	AI disabled: 1-channel 12 MP@30 fps; 2-channel 8 MP@30 fps; 3-channel 5 MP@30 fps; 4-channel 4 MP@30 fps; 8-channel 1080p@30 fps AI enabled: 1-channel 12 MP@30 fps; 1-channel 8 MP@30 fps; 2-channel 5 MP@30 fps; 3-channel 4 MP@30 fps; 7-channel 1080p@30 fps
Video Output	1 HDMI, 1 VGA Simultaneous: HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 Heterogeneous: HDMI: 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720
Multi-screen Display	Main Screen: 1/4/8/9/16 Sub Screen: 1/4/8/9/16
Third-party Camera Access	ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Hanwha

Compression Standard

Video Compression	Smart H.265+; H.265; Smart H.264+; H.264
Audio Compression	G.711a; G.711u; PCM; G726

Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; IPv6; UDP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; FTP; DDNS; SNMP; Alarm Server; P2P; Auto Registration; IP Search (Supports IP camera, DVR, NVS, etc.)
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 22.12(Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE; Safari; Edge; Firefox

Recording Playback

Multi-channel Playback	Up to 16 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
Alarm Input	NA (2 channels is optional)
Alarm Output	NA (1-channel 12 V 1 A output is optional)
Disk Interface	1 SATA port. Each disk can contain up to 20 TB. This limit varies depending on the environment temperature.
USB	2 (2 rear USB 2.0 ports)
HDMI	1
VGA	1
Network Port	1 (10/100/1000 Mbps Ethernet port, RJ-45)

General

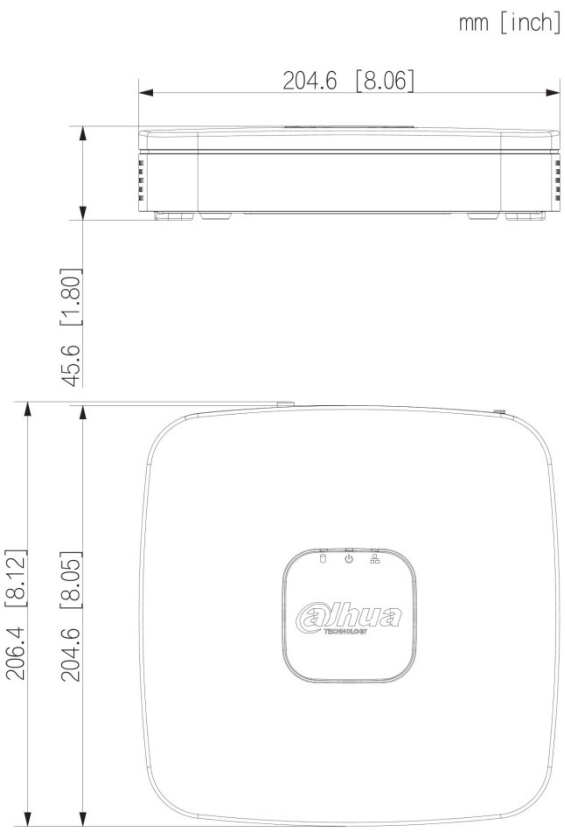
Power Supply	12 VDC, 2 A
Power Consumption	Total output of NVR is <10 W(without HDD)
Net Weight	0.45 kg (0.99 lb)
Gross Weight	1.07 kg (2.36 lb)
Product Dimensions	204.6 mm × 206.4 mm × 45.6 mm(8.06" × 8.12" × 1.80") (W × D × H)

Packaging Dimensions	364 mm × 96 mm × 261 mm (14.33" × 3.78" × 10.26") (W × D × 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	CE-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

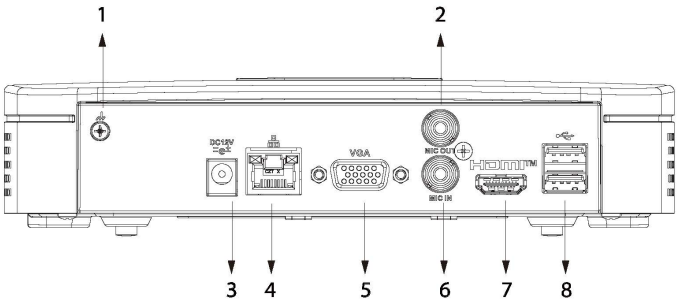
Ordering Information

Type	Model	Description
NETWORK VIDEO RECORDER	DHI-NVR4116-4KS3	16CH Smart 1U 1HDD Lite Network Video Recorder

Dimensions (mm[inch])



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

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