DH-XVR5116HE-4KL-I3
16 Channels Penta-brid 4K-N/5MP Mini 1U 1HDD WizSense Digital Video Recorder

WizSense

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.

Series Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, XVR5000-4KL-I3 Series featuring max.full-channel SMD Plus to benefit customers from AI upgrade (The number of channels differs depending on the model. Please refer to the specifications below for information on the number of channels.). This series has been developed to reduce false-alarm rates and the cost of human surveillance, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

Functions

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

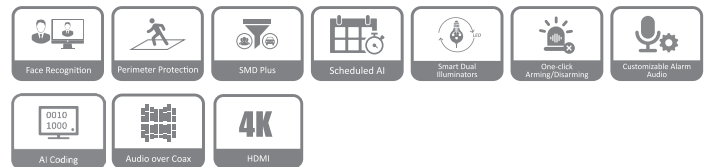*The Face Recognition is conflicted with SMD Plus and Perimeter Protection.

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.

- H.265+/H.265 dual-stream video compression.
- Supports Full-channel AI-Coding.
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs.
- Max 32 channels IP camera inputs, each channel up to 8MP; Max 128 Mbps incoming bandwidth.
- Up to 8 channels video stream (analog channel) Perimeter Protection.
- Up to 16 channels video stream (analog channel) SMD Plus.
- Up to 2 channels video stream (analog channel) human face recognition.
- IoT & POS functionalities.

Face Recognition	Perimeter Protection	SMD Plus	Scheduled AI	Smart Dual Illuminators	One-click Arming/Disarming	Customizable Alarm Audio
AI Coding	Audio over Coax	4K HDMI				

Scheduled AI
This technology allows multiple AI functions to be set for one channel based on time frames, eliminating the need to manually configure the system to switch between functions each time. Scheduled AI greatly increases efficiency and widens the number of scenarios that the device can be used in.

Smart Dual Illuminators
With Smart Dual Illuminators technology, you can select Smart Illumination Mode for the system to automatically switch between IR mode and white light mode. It allows white light to be turned on when a target is detected by the SMD Plus/Perimeter Protection function of AI-enabled XVR. This significantly reduces light pollution at night. Together with other modes, including IR Mode and White Light Mode, the smart dual illumination technology can meet the requirements of a wide variety of scenes.

One-click Arming/Disarming
With just one click, you can enable or disable alarm linkages to show messages, send emails, output audio alarms and more, through the mobile app and platform.

Customizable Alarm Audio
Designed for your convenience, the TiOC alarm can be customized to meet your needs. It is flexible, allowing you to directly upload your customized audio through the mobile app and XVR.

AI Coding
Compared with H.265/H.264, AI coding can reduce more than 50% bit rate and storage requirements without loss of decoding compatibility, providing clear human and vehicle details.

Audio over Coax
The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

Technical Specification

System

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

Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	Advanced Model: 2 channels, 10 IVS for each channel General Model: 8 channels, 10 IVS for each channel

Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Recorder (Number of Channels)	2 channels (up to 12 face images/s)

Face Recognition

Face Database Capacity	Up to 10 face databases with 20,000 face images in total. Name, gender, birthday, address, certificate type, cerificate No., countries&regions and state can be added to each face picture
Face Recognition Performance of AI by Recorder (Number of Channels)	2 channels

SMD Plus

SMD Plus by Recorder	16 channels: Secondary filtering for human and motor vehicle SMD Plus, reducing false alarms caused by leaves, rain and lighting condition change

Audio and Video

Analog Camera Input	16 BNC ports, CVI access by default, supports HDCVI/AHD/TVI/CVBS auto-detect
Camera Input	1. CVI: 4K, 6MP, 5MP, 4MP, 1080P@25/30 fps, 720P@50/60 fps, 720P@25/30 fps. 2. TVI: 4K, 5MP, 4MP, 3MP, 1080P@25/30 fps, 720P@25/30 fps. 3. AHD: 4K, 5MP, 4MP, 3MP, 1080P@25/30 fps, 720P@25/30 fps.
IP Camera Input	Up to 32 channels of IPC access 16 IP channels by default + 16 channels (analog channels are converted to IP channels) incoming bandwidth: 128 Mbps, recording bandwidth: 128 Mbps and outgoing bandwidth: 128 Mbps *After IP channels are added beyond the existing channels, the AI Function (IVS, SMD, FACE) will be disabled.
Encoding Capacity	Main stream: All channels 4K@(1-7 fps); 6MP@(1-10 fps); 5MP@(1-12 fps); 4K-N/4 MP/3 MP@(1-15 fps); 4M-N/1080P/720P/960H/D1/CIF (1fps–25/30fps); Sub stream: 960H@(1 fps–15 fps); D1/CIF@(1 fps–25/30 fps)
Dual-stream	Yes
Video Bit Rate	32 kbps–6144 kbps per channel
Audio Sampling	8 kHz, 16 bit
Audio Bit Rate	64 kbps
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	When IP extension mode not enabled: 1/4/8/9/16 When IP extension mode enabled: 1/4/8/9/16/25/36
Third-party Camera Access	Onvif, Panasonic, Sony, Axis, Arecont, Pelco, Canon, Samsung
Multi-screen Display	When IP extension mode not enabled: 1/4/8/9/16 When IP extension mode enabled: 1/4/8/9/16/25/36
Third-party Camera Access	Onvif, Panasonic, Sony, Axis, Arecont, Pelco, Canon, Samsung

Compression Standard

Video Compression	AI Coding; H.265+; H.265; H.264+;H.264
Audio Compression	G.711a; G.711u; PCM

Network

Network Protocol	HTTP; HTTPS; TCP / IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; P2P
Mobile Phone Access	iOS, Android
Interoperability	ONVIF 21.06, CGI
Browser	Chrome, IE9 or later, Firefox
Network Mode	Single-address mode

Recording Playback

Record Mode	General, motion detection; intelligent; alarm; POS
Recording Playback	When the AI Function (IVS, FACE) is not enabled:1/4/9/16 When the AI Function (IVS, FACE) is enabled:1/4/9
Backup Method	USB device and network
Playback Mode	Instant playback, general playback, event playback, tag playback, smart playback (face and motion detection)

Alarm

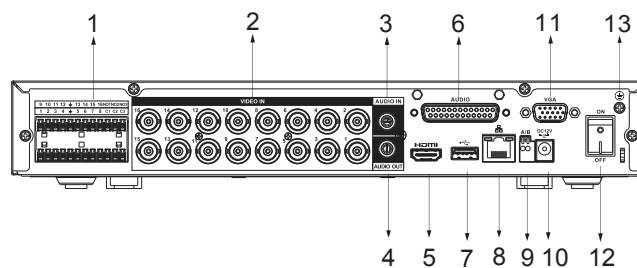|	
General Alarm	Motion detection, video loss, tampering, and local alarm
Anomaly Alarm	No disk, storage error, low space, offline, IP conflict, MAC conflict
Intelligent Alarm	Face detection, face recognition, perimeter protection
Alarm Linkage	Record, snapshot (panoramic), IPC external alarm output, access controller, voice prompt, buzzer, log, preset, email

Ports

Audio Input	16-channel RCA (external) 16-channel BNC (coaxial audio)
Audio Output	1-channel RCA
Two-way Talk	Yes (share the same audio input with the first channel)
Alarm Input	16 channels
Alarm Output	3 channels
HDD Interface	1 SATA Port, up to 16 TB for a single HDD, the maximum HDD capacity varies with environment temperature
RS-485	1
USB	2 (1 front USB 2.0 port, 1 rear USB 3.0 port)
HDMI	1
VGA	1
Network Port	1 (10/100/1000 Mbps Ethernet port, RJ-45)

General

Power Supply	12 VDC, 3 A
Power Consumption	Lower than 15 W(without HDD)
Net Weight	1.45 kg (3.20 lb)
Gross Weight	2.33 kg (5.14 lb)
Product Dimensions	Mini 1U, 325.0 mm × 257.1 mm × 55.0 mm (12.80'' × 10.12'' × 2.17'') (W × D × H)
Packaging Dimensions	372.0 mm × 117.0 mm × 308.0 mm (14.65" × 4.61" × 12.13") (W × D × H)
Operating Temperature	−10 °C to +55 °C (14 °F to +131 °F)
Operating Humidity	10%–90% (RH)
Installation	Desktop
Certifications	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024 FCC: Part 15 Subpart B

Panels

1	Alarm In/Out	2	Video In
3	Audio In	4	Audio Out
5	HDMI Port	6	DB–25 Port
7	USB Port	8	Network Port
9	RS–485 Port	10	DC 12V Power Input
11	VGA Port	12	Power Switch
13	Ground		

Ordering Information

Type	Model	Description
16 Channels WizSense XVR	DH-XVR5116HE-4KL-I3	Mini 1U DIGITAL VIDEO RECORDER

Dimensions (mm[inch])

325.0 [12.80]

55.0 [2.17]

257.1 [10.12]

246.1 [9.69]