NVR-E16/16P-2VC

16Channel 1U 2HDDs 16PoE AI
Network Video Recorder

· 16 Channel IP video access
· Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
· Up to 16 Channel perimeter protection
· Up to 4 Channel video stream face recognition
· Up to 22 face pictures/sec processing
· Up to 20 face databases with 100,000 face images in total
· 1-8 PoE Ports support ePoE & EoC

New AI EmPower is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, AI provides precise, reliable and comprehensive AI solutions for verticals.

Perimeter Protection	Face Detection	Face Recognition	Image Search	Heat Map	ANPR
Blocklist Alarm	People counting	False Alarm Filter	SMD Plus	Video Metadata	

Series Overview

New NVR network video recorder delivers excellent performance and high recording quality that is ideally suitable for IP video surveillance applications. This NVR adopts powerful processor, providing the capability of 4K resolution processing for applications where image details are highly required. Additionally, the NVR can be served as edge storage, central storage or backup storage with an intuitive shortcut operation menu for remote management and control.

With build-in deep learning module, NVR5000-I series products adopt video image structuring technology based on deep learning algorithms, achieving high-precision human face recognition and perimeter protection. By applying deep learning artificial intelligence, NVR5000-I allows users to focus on what matters most, improves event response time and helps make video actionable.

The NVR is compatible with numerous third-party devices, which make it the perfect solution for surveillance systems that work independently of video management system (VMS).

Functions

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.
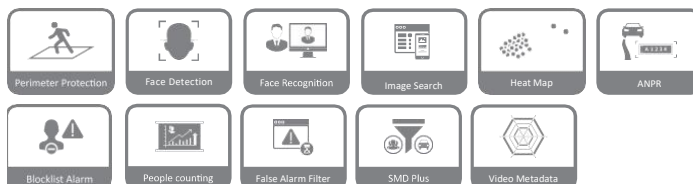
Face Recognition
The Face Recognition technology extracts the features of captured faces and compares them with that in face database to recognize the person identity.

SMD Plus
With intelligent algorithm, The 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.

Video Metadata
With deep learning algorithm, The Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

ANPR by Camera
With deep learning algorithm, The ANPR technology can recognize the number plate information of vehicles in the image with ANPR cameras. Support block/allowlist mode, searching target vehicles from recorded video.

Fisheye Dewarping
Fisheye dewarping solves the problem of distortion in the circular panoramic view. The device offers various dewarping modes for different installations and configurations that enhance the video, in both live or playback modes. Each dewarping mode offers options to adjust each scene.

People Counting by Camera
With deep learning algorithm, The People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs yearly/monthly/weekly/daily reports to meet your requirements.

Stereo Analysis by Camara
With deep learning algorithm, The People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs yearly/monthly/weekly/daily reports to meet your requirements.

Technical Specification

System

Main Processor	Multi-core embedded processor
Operating System	Embedded LINUX

Perimeter Protection

Performance	16 channel, 10 IVS rules for each channel
Object classification	Human/Vehicle secondary recognition for tripwire and intrusion
AI Search	Search by target classification (Human, Vehicle)

Face Recognition

Performance	Max 22 face pictures/sec processing (modeling and comparing)
	4 channel video stream face recognition/16 channel picture stream face recognition (with FD camera)
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 20 face databases with 100,000 face images in total. Name, gender, birthday, nationality, address, ID information 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.

Metadata

Face	Gender, age, glasses, beard, mouth mask, expression.
Vehicle	Plate No., type, color, vehicle type, logo, plate color, ornament, calling, seatbelt, region.
Human Body	Top, top color, bottom, bottom color, hat, bag, gender, age, umbrella.
Non-motor Vehicle	Type, color, number of passengers, helmet.
AI Search	Support search target video by metadata.

Audio and Video

IP Camera Input	16 Channel
Two-way Talk	1 Channel Input, 1 Channel Output, RCA

Display

Interface	1 HDMI, 1 VGA
Resolution	HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720
Decoding Capability	4-ch@8MP (30fps), 16-ch@1080P (30fps)
Multi-screen Display	1/4/8/9/16

Recording

Bandwidth	320 Mbps (160 Mbps when AI function enabled)
Compression	Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
Resolution	16MP, 12MP, 8MP, 6MP, 5MP, 4MP, 3MP, 1080P, 1.3MP, 720P, D1 etc.
Record Mode	Manual, Schedule (Continuous, MD (Motion Detection), Alarm, IVS)
Record Interval	1–120 min (default: 60 min), Pre-record: 1–30 sec, Post-record: 10–300 sec

Video Detection and Alarm

Trigger Events	Alarm Out, Video Push, Email, Recording, PTZ, Tour, Snapshot, Voice Prompt, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss, Tampering and Scene Change
Alarm input	4 Channel
Relay Output	2 Channel

Playback and Backup

Sync Playback	1/4/9/16
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to second)
Backup Mode	USB Device/Network

Third-party Support

Third-party Support	Panasonic, Sony, Samsung, Axis, Pelco, Arecont, Onvif, Canon and more

Network

Interface	1 RJ-45 Ports (10/100/1000 Mbps)
PoE	16 ports (IEEE802.3af/at) 1-8 ports support ePoE & EoC
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, SNMP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search (Support EmPower IP camera, DVR, NVS, etc.), P2P
Max. User Access	128 users
Mobile App	iPhone, iPad, Android
Interoperability	ONVIF 2.4, SDK, CGI

Storage

Internal HDD	2 SATA III ports, up to 10 TB for a single HDD. The maximum HDD capacity varies with environment temperature
eSATA	N/A

Auxiliary Interface

USB	2 USB Ports (1 Rear USB 3.0, 1 Front USB 2.0)
RS232	1 Port, for PC Communication and Keyboard
RS485	1 Port, for PTZ Control

Electrical

Power Supply	Single, AC100V–240V, 50–60 Hz
Power Consumption	NVR: <15.6W (Without HDD)
	PoE: Max 25.5W for single port 130W total rated power, 80% control for protection
Fan	Smart fan, automatically adjust running speed

Environmental

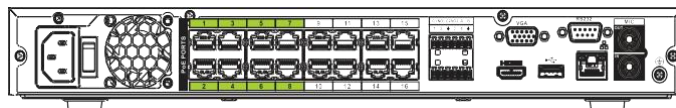|	
Operating Conditions	-10°C to +55°C (+14°F to +131°F), 86–106kpa
Storage Conditions	0°C to +40°C (+32°F to +104°F), 30–85% RH

Construction

Dimensions	1U, 375.0 mm × 327.4 mm × 53.0 mm (14.76" × 12.89" × 2.09")
Net Weight	2.70 kg (6.0 lb) (without HDD)
Gross Weight	4.00 kg (8.8 lb) (without HDD)

Certifications

CE	EN55032, EN55024, EN50130-4, EN60950-1
FCC	Part 15 Subpart B, ANSI C63.4-2014
UL	UL 60950-1

Panels

Ordering Information

Type	Model	Description
16 Channel AI NVR	NVR-E16/16P-2VC	16 Channel 1U 16PoE AI Network Video Recorder

Dimensions (mm[inch])

375. 0 ［14. 76］

53. 0 ［2. 09］

327. 4 ［12. 89］

321. 0 ［12. 6］