BARRACUDA
COMPUTE

SEAGATE

Amazing Versatility.
Unmatched Dependability.

Seagate brings over 20 years of trusted performance and reliability to the Seagate® BarraCuda® 3.5-inch HDD—now available in capacities up to 8TB.

8TB
BarraCuda
ST8000DM004

Best-Fit Applications

- Desktop or all-in-one PCs
- Home servers
- Entry-level direct-attached storage devices (DAS)

Key Advantages

Versatile HDDs for all your PC needs bring you industry-leading excellence in personal computing.

For over 20 years the BarraCuda family has delivered super-reliable storage for the hard drive industry.

Capacities up to 8TB for desktops, BarraCuda leads the market with the widest range of storage options available.

Advanced Power modes help save energy without sacrificing performance.[1]

SATA 6Gb/s interface optimizes burst performance.[1]

Seagate Secure®models provide Self-Encrypting Drive (SED) hardware-based data security and deliver an Instant Secure Erase feature for safe, fast and easy drive retirement. They meet NIST 800-88 media sanitization specifications and also support the Trusted Computer Group (TCG) Opal standard.[2,3]

1 Performance may vary depending on user's hardware configuration and operating system.

2 Seagate Secure models are not available in all countries. May require TCG-compliant host or controller support.

3 Refer to specifications table for further information and feature options.

Specifications	8TB	6TB	4TB	3TB	3TB
Standard Model Numbers	ST8000DM004	ST6000DM003	ST4000DM004	ST3000DM007	—
Seagate Secure® Model Numbers	—	—	—	—	ST3000DM002
Bytes per Sector	4096	4096	4096	4096	4096
Performance					
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
SATA Transfer Rates Supported (Gb/s)	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5
Max. Sustained Transfer Rate OD (MB/s)	190MB/s	185MB/s	190MB/s	185MB/s	210MB/s
Cache, Multisegmented (MB)	256	256	256	256	64
Rotational Speed (RPM)	5400	5400	5400	5400	7200
Reliability/Data Integrity					
Load/Unload Cycles	600,000	600,000	600,000	600,000	300,000
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E14
Power-On Hours per Year (24×7)	2400	2400	2400	2400	2400
Workload Rate Limit (TB/Year)	55	55	55	55	55
Limited Warranty (years)	2	2	2	2	2
Power Management					
Startup Power (A)	2.0	2.0	2.0	2.0	2.5
Operating Mode, Typical (W)	5.3	5.3	3.7	3.7	8
Idle Average (W)	3.4W	3.4W	2.5W	2.5W	5.40W
Standby Mode/Sleep Mode, Typical (W)	0.25/0.25	0.25/0.25	0.25/0.25	0.25/0.25	0.75/0.75
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	±10%	±10%	±10%	±10%	±10%
Environmental/Temperature					
Operating (ambient, min)	0°C	0°C	0°C	0°C	0°C
Operating (drive case, max)	60°C	60°C	60°C	60°C	60°C
Nonoperating (ambient)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Halogen Free	Yes	Yes	Yes	Yes	Yes
RoHS Compliance	Yes	Yes	Yes	Yes	Yes
Physical					
Height (mm/in, max)	26.11mm/1.028in	26.11mm/1.028in	20.20mm/0.795in	20.20mm/0.795in	26.11mm/1.028in
Width (mm/in, max)	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb)	630g/1.389lb	610g/1.345lb	490g/1.08lb	490g/1.08lb	626g/1.38lb
Carton Unit Quantity	20	20	25	25	20
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8	40/8

Specifications	2TB	2TB	2TB	1TB	500GB
Standard Model Numbers	ST2000DM005	ST2000DM008	ST2000DM006	ST1000DM010	ST500DM009
Seagate Secure® Model Numbers	—	—	ST2000DM002	—	—
Bytes per Sector	4096	4096	4096	4096	4096
Performance					
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
SATA Transfer Rates Supported (Gb/s)	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5	6.0/3.0/1.5
Max. Sustained Transfer Rate OD (MB/s)	190MB/s	220MB/s	210MB/s	210MB/s	210MB/s
Cache, Multisegmented (MB)	256	256	64	64	32
Rotational Speed (RPM)	5400	7200	7200	7200	7200
Reliability/Data Integrity					
Load/Unload Cycles	600,000	600,000	300,000	300,000	300,000
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E14	1 per 10E14	1 per 10E14
Power-On Hours per Year (24×7)	2400	2400	2400	2400	2400
Workload Rate Limit (TB/Year)	55	55	55	55	55
Limited Warranty (years)	2	2	2	2	2
Power Management					
Startup Power (A)	2.0	2.0	2.5	2.0	2.0
Operating Mode, Typical (W)	3.7	5.1	8	5.3	5.3
Idle Average (W)	2.5W	3.9W	5.40W	4.60W	4.60W
Standby Mode/Sleep Mode, Typical (W)	0.25/0.25	0.3/0.3	0.75/0.75	0.94/0.94	0.94/0.94
Voltage Tolerance, Inc. Noise (5V)	±5%	±5%	±5%	±5%	±5%
Voltage Tolerance, Inc. Noise (12V)	±10%	±10%	±10%	±10%	±10%
Environmental/Temperature					
Operating (ambient, min)	0°C	0°C	0°C	0°C	0°C
Operating (drive case, max)	60°C	60°C	60°C	60°C	60°C
Nonoperating (ambient)	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C	-40°C – 70°C
Halogen Free	Yes	Yes	Yes	Yes	Yes
RoHS Compliance	Yes	Yes	Yes	Yes	Yes
Physical					
Height (mm/in, max)	20.20mm/0.795in	20.20mm/0.795in	26.11mm/1.028in	19.99mm/0.787in	19.99mm/0.787in
Width (mm/in, max)	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb)	415g/0.915lb	490g/1.08lb	626g/1.38lb	400g/0.88lb	400g/0.88lb
Carton Unit Quantity	25	25	20	25	25
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40 / 8	40 / 8

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DH-IPC-HFW1230S1-A-S4

2 MP Entry IR Fixed-focal Bullet Network Camera

- 2-MP 1/2.8" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 2 MP (1920 × 1080)@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 30 m.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, DWDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Abnormality detection: Motion detection, video tampering, network disconnection, IP conflict, audio detection and illegal access.
- Built-in MIC.
- 12 VDC/PoE power supply.
- IP67 protection.

Series Overview

With features of simple installation, easy operation, and high performance-cost ratio, Dahua Entry series network camera is applicable to small and medium-sized scenes, such as homes/residences, small-sized retail stores, and other small and medium-sized enterprises.

Functions

Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

Smart Illumination

Dahua Smart Illumination technology can display image in the environment of low illuminance or completely dark environment. According to the distance of the targets, the camera adjusts Illuminations intensity automatically to display the details of the moving target.
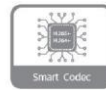
Motion Detection

When moving objects appear in the monitoring image, Dahua Motion Detection technology triggers alarm or records.

Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

Protection (IP67, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.

Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification

Camera

Image Sensor	1/2.8" CMOS
Max. Resolution	1920 (H) × 1080 (V)
ROM	16 MB
RAM	64 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.01 lux@F2.0 (Color, 30 IRE) 0.001 lux@F2.0 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	> 56 dB
Illumination Distance	30 m (98.43 ft) (IR)
Illuminator On/Off Control	Auto; manual
Illuminator Number	1(IR LED)
Pan/Tilt/Rotation Range	Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360°

Lens

Lens Type	Fixed-focal
Lens Mount	M12
Focal Length	2.8 mm; 3.6 mm
Max. Aperture	2.8 mm: F2.0 3.6 mm: F2.0
Field of View	2.8 mm: Horizontal: H: 102°; V: 54°; D: 120° 3.6 mm: Horizontal: H: 88°; V: 47°; D: 104°
Iris Control	Fixed
Close Focus Distance	2.8 mm: 0.5 m (1.64 ft) 3.6 mm: 0.8 m (2.62 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	38.6 m (126.64 ft)	15.4 m (50.52 ft)	7.7 m (25.26 ft)	3.9 m (12.80 ft)
	3.6 mm	49.7 m (163.06 ft)	19.9 m (65.29 ft)	9.9 m (32.48 ft)	5.0 m (16.40 ft)

Video

Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream)
Smart Codec	Smart H.265+; Smart H.264+
Video Frame Rate	Main stream: 1920 × 1080@1–25/30 fps Sub stream: 704 × 576@1–25 fps 704 × 480@1–30 fps *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.
Stream Capability	2 streams
Resolution	1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–6144 kbps H.265: 12 kbps–6144 kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	DWDR
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto; manual
Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (RoI)	Yes (4 areas)
Smart Illumination	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower)
Mirror	Yes
Privacy Masking	4 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711A; G.711Mu; G.726

Alarm

Alarm Event	Network disconnection; IP conflict; illegal access; motion detection; video tampering; audio detection; security exception

Network

Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Cyber Security	Configuration encryption;Trusted execution; Digest; Security logs; Trusted upgrade; WSSE;Trusted boot; Account lockout; Generation and importing of X.509 certification; Video encryption
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP
Interoperability	ONVIF (Profile S); CGI; P2P; Genetec
User/Host	6 (Total bandwidth: 36 M)
Storage	FTP
Browser	IE Chrome Firefox
Management Software	Smart PSS; DSS; DMSS
Mobile Client	iOS;Android

Certification

Certifications	CE-LVD: EN 62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B

Power

Power Supply	12 VDC/PoE (802.3af)

| Power Consumption | Basic: 1.2 W (12 VDC); 2 W (PoE)
Max. (ICR + H.265 + IR intensity): 3.2 W (12 VDC); 4.1 W (PoE) |

Environment

Operating Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Operating Humidity	≤ 95%
Storage Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Protection	IP67

Structure

Casing	Metal + plastic
Product Dimensions	162.6 mm × 70 mm× 70 mm (6.4" × 2.8" × 2.8") (L × W × H)
Net Weight	0.22 kg (0.5 lb)
Gross Weight	0.34 kg (0.7 lb)

Ordering Information

Type	Model	Description
IP CAMERA	DH-IPC-HFW1230S1-A-S4	2 MP Entry IR Fixed-focal Bullet Network Camera
Accessories (optional)	PFA134	Junction Box
	PFA152-E	Pole Mount Bracket
	PFM321D	12 VDC 1A Power Adapter
	PFM900-E	Integrated Mount Tester

Accessories
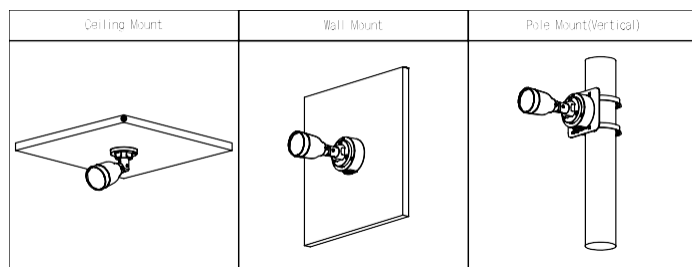
Optional:

PFA134
Junction Box
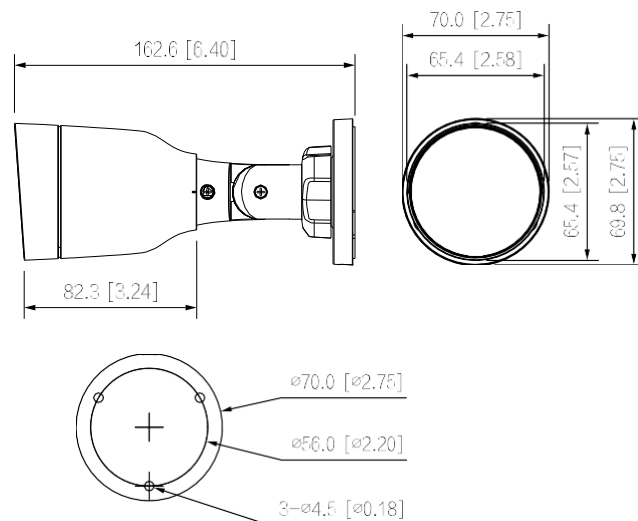
PFA152-E
Pole Mount Bracket

PFM321D
12 VDC 1A Power Adapter

PFM900-E
Integrated Mount Tester

Dimensions (mm[inch])

DHI-NVR4104HS-P-4KS2/L

4 Channel Compact 1U 1HDD 4PoE Network Video Recorder

Series Overview

Dahua NVR4000-4KS2/L is introduced as the Lite series NVR that supports for 4K and H.265 encoding technology with excellent performance at an affordable price. For applications where image details are highly required, it delivers the capability of 4K resolution processing. The NVR can be served as edge storage, central storage or backup storage with an intuitive shortcut operation menu for remote management and control.

Due to its cost-effective and easy-to-install design, this NVR is ideal for a wide range of applications such as public safety, water conservancy, transportation, city centers, education, and financial institutions.

The NVR is compatible with numerous third-party devices making it the perfect solution for surveillance systems that work independently of video management system (VMS). It features an open architecture that supports for multi-user access and is compatible with ONVIF Profile S, T, G protocol, enabling interoperability with IP cameras.

Functions

Perimeter Protection by Camera

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 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.

SMD Plus by Camera

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.

- New 4.0 user interface, Security baseline 2.1
- H.264, H.265, Smart H.264+, and Smart H.265+. H.265 auto switch
- Max. decoding capability: 8 × 1080p@30 fps. Supports adaptive decoding
- Supports mainstream cameras of ONVIF and RTSP protocols
- P2P remote surveillance, video play on mobile device
- VGA/HDMI simultaneous video output, maximum resolution of HDMI is 4K
- AI by Camera: Face detection, perimeter protection, IVS, people counting, heat map, and SMD
- Supports remote configuration and management of IPC, such as setting parameters, getting information, and upgrading IPC of the same model in batches

SMD Plus	Face Detection	Perimeter Protection	People Counting	4K HDMI

People Counting by Camera

With deep learning algorithm, Dahua 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.

Smart Codec

With advanced scene-adaptive rate control algorithm, Dahua smart codec technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

DMSS

Video record in SD card in IP cameras when the network breaks down, and after the network recovered, the video will be transferred to device and then recorded in it.

Lite Series | DHI-NVR4104HS-P-4KS2/L

Technical Specification

System

Main Processor	Industrial-grade embedded processor
OS	Embedded Linux
Operation Interface	Web/operating in local GUI

Perimeter Protection by Camera

Performance	4 channels
AI Search	Search for pictures by channel, time and event type

Face Detection by Camera

Performance	4 channels
Face Attributes	6 attributes: Gender, age, glasses, expression, mouth mask, and beard
AI Search	Search for pictures by channel, time and face attributes

SMD Plus by Camera

Performance	4 channels
AI Search	Search by target classification (human, vehicle)

Video

Access Channel	4
Network Bandwidth	Access: 80 Mbps; Storage: 80 Mbps; Forward: 60 Mbps
Resolution	8MP; 6MP; 5MP; 4MP; 3MP; 1080p; 720p; D1
Decoding Capability	8 × 1080p@30 fps
Video Output	1 × VGA output, 1 × HDMI output, supports simultaneous video sources output for VGA and HDMI
Multi-screen Display	1 , 4 views
Third-party Camera Access	ONVIF; RTSP

Compression

Video	Smart H.265/H.265/Smart H.264/H.264/MJPEG
Audio	PCM/G711A/G711U/G726/AAC

Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4/IPv6; UPnP; SNMP; RTSP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; 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 4 channels for playback
Record Mode	Manual record; alarm recording; SMD recording; smart recording
Storage	Local HDD; network
Backup	USB storage device

Playback Function	1. Play/pause/stop/slow/quick/backward/by frame 2. Full screen, backup (video clip/file), partial zoom in, and audio on/off

Storage

Disk Group	Yes

Alarm

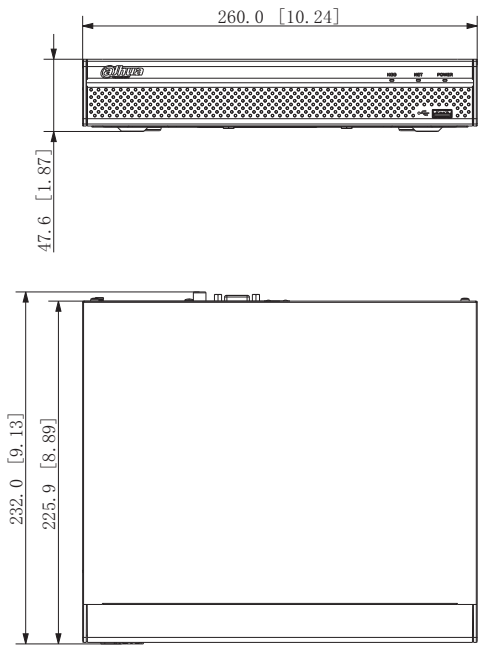|	
General Alarm	Motion detection, privacy masking, video loss, scene changing, PIR alarm, IPC external alarm
Anomaly Alarm	Camera disconnection, storage error, disk full, IP conflict, MAC conflict, login locked, and cybersecurity exception
Intelligent Alarm	Face detection, perimeter protection (intrusion and tripwire), IVS, people counting, heat map, and SMD alarms
Alarm Linkage	Recording, snapshot, audio, buzzer, log, preset, and email

External Port

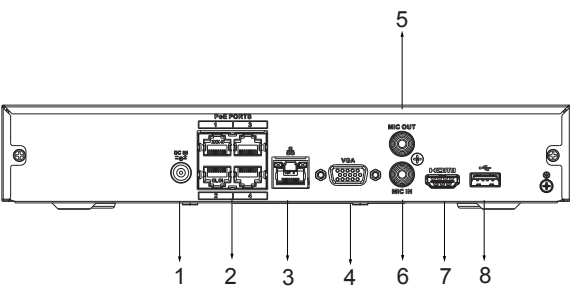|	
Audio Input	1 × RCA input
Audio Output	1 × RCA output
HDD	1 SATA III ports, up to 10 TB for a single HDD. The maximum HDD capacity varies with environment temperature
USB	2 (1 × front USB2.0; 1 × back USB2.0)
HDMI	1 (supports up to 4K resolution output)
VGA	1
Network	1 × RJ-45, 10/100 Mbps self-adaptive Ethernet port
POE	4

General Parameter

Power Supply	48 V/53 VDC, 1.25 A/1.13 A
Power Consumption	< 10 W (HDD not included, idling) Total output power of PoE is 36W, 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 × 232.3 mm × 50.3 mm (10.24" × 9.14" × 1.98") (W × L × H)
Package Dimensions	117 mm × 373 mm × 307 mm (4.61" × 14.69" × 12.09") (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	3000 m (9842.52 ft)
Installation	Desktop mounted
Certifications	CE: EN62368-1; EN55032,EN55024, EN55035, EN61000-3-2, EN61000-3-3 EN50130-4 FCC: Part 15 Subpart B

Ordering Information

Type	Model	Description
4 Channel NVR	DHI-NVR4104HS-P-4KS2/L	4 Channel Compact 1U 4PoE 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