

DS20HKVS-VX1 & DS40HKVS-VX1

▪ Key Features

- Supports up to 32 cameras high-definition streams
- 128 MB Cache buffer helps to smooth video recording and guard against frame drops
- Designed for 24x7 operation
- Annual workload rating of 180 TB/year^[3]
- MTTF of 1M hours^[4]
- Industry-standard 3.5-inch form-factor^[5] and SATA interface
- Advanced Format 512e Sector Technology

Specification

Item		DS40HKVS-VX1	DS20HKVS-VX1
Interface		SATA	
Formatted Capacity		4 TB	2TB
Performance	Interface Speed ^[6]	6.0 Gb/s, 3.0 Gb/s, 1.5 Gb/s	
	Rotation Speed	5400 rpm	
	Buffer Size	128 MB	
	Maximum Data Transfer Speed (Sustained) (Typ.)	176.4 MB/s	
Logical Data Block Length ^[9]		HOST: 512 B, DISK: 4096 B	
Supply Voltage	Allowable Voltage	12 V ^[10] ± 10 % / 5 V ^[10] ± 5 % ^[11]	
Power Consumption	Operating (Typ.) ^[12]	4.11 W	4.01 W
	Active idle (Typ.)	2.36 W	2.08 W
	Standby (Typ.)	0.20 W	0.31 W
Acoustics (Sound Power) ^[13]	Low Power Idle (Typ.)	22 dB	21 dB

Environmental Limit

Item		Specification
Ambient temperature	Operating	0 °C to 60 °C (No condensation)
	Non-Operating ^[14] ^[15]	- 40 °C to 70 °C (No condensation)
Enclosure surface temperature	Operating	0 °C to 70 °C (No condensation) ^[16]
Relative Humidity	Operating	5 % to 90 % R.H. (No condensation)
	Non-Operating	5 % to 95 % R.H. (No condensation)
Altitude	Operating	- 305 m to 3048 m
	Non-Operating ^[14]	- 305 m to 12 192 m
Shock ^[14]	Operating	686 m/s ² { 70 G } { 2 ms duration }
	Non-Operating	6TB: 2940 m/s ² { 300 G } / 4TB, 2TB: 3430 m/s ² { 350 G } { 2 ms duration }
Vibration ^[14]	Operating ^[15]	4.90 m/s ² { 0.50 G } { 5 to 350 Hz } 2.45 m/s ² { 0.25 G } { 350 to 500 Hz }
	Non-Operating ^[17]	29.4 m/s ² { 3.0 G } { 5 to 500 Hz }

Reliability

Item	Specification
MTTF / AFR ^[4]	1 000 000 hours / 0.88%
Non-recoverable Error Rate	1 error per 10 ¹⁴ bits read
Load / Unload	600 000 times
Availability	24 hours/day, 7 days/week
Rated Annual Workload (Total TB Transferred per Year, R/W)	180 TB/year

Mechanical Specification

Item	DS40HKVS-VX1	DS20HKVS-VX1
Width	101.6 mm ± 0.25 mm	
Height (Max)	26.1 mm	
Length (Max)	147.0 mm	
Weight (Max)	650 g	440 g

[1] Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 4 Mb/s rate. Actual results may vary based on various factors, including the types of cameras installed, the system's hardware and software capabilities, and the video compression technology used, as well as system variables such as resolution, frames per second, and other settings.

[2] Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[3] Workload is defined as the amount of data written, read or verified by commands from host system.

[4] MTTF (Mean Time to Failure) of the HDDs during its life time is 1 000 000 hours and AFR (Annualized Failure Rate) is 0.88 %. (POH: 8760 hours per one year of 24 x 7 operational capabilities for normal surveillance usage and environments. Average HDA surface temperature: 40°C or less., workloads: 180 TB/year, which is defined as the amount of data written, read or verified by commands from host system) Continual or sustained operation at case HDA surface temperature above 40°C may degrade product reliability

[5] "3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size.

[6] Read and write speed may vary depending on the host device, read and write conditions, and file size.

[9] Read-modify-write is supported.

[10] Input voltages are specified at the HDD connector side, during HDD ready state.

[11] Make sure the value is not less than DC -0.3 V (less than -0.6 V, 0.1 ms) when turning on or off the power.

[12] Operating watt is measured using 80% random read/write and 20 % performance idle.

[13] The measuring method is based on ISO 7779.

[14] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.

[15] At random seek write/read and default on retry setting with log sweep vibration.

[16] Operation of high surface temperature will be shortened of the drives useful life. The recommendation operating condition of surface temperature is less than 60°C.

[17] At power-off state after installation.

*Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.

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Headquarters

No.555 Qianmo Road, Binjiang District,
Hangzhou 310051, China
T +86-571-8807-5998
www.hikvision.com



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