DS60HKVS-VX1
Surveillance Hard Drive

KEY FEATURES

- Up to 6 TB capacity
- Supports up to 64 cameras high-definition streams
- 256 MB buffer helps to smooth video recording andguard against frame drops
- Designed for 24x7 operation
- Annual workload rating of 180 TB/year
- MTTF of 1M hours
- Industry-standard 3.5-inch form-factor and SATA 6.0Gb/s interface
- Advanced Format 512e Sector Technology

SPECIFICATION

Item		DS60HKVS-VX1
Interface		SATA
Formatted Capacity		6 TB
Performance	Interface Speed	6.0 Gb/s, 3.0 Gb/s, 1.5 Gb/s
	Rotation Speed	5400 rpm
	Buffer Size	256 MB [7]
	Maximum Data Transfer Speed [8] (Sustained) (Typ.)	176.4 MB/s
Logical Data Block Length		HOST: 512 B, DISK: 4096 B
Supply Voltage	Allowable Voltage	12 V ± 10 % / 5 V ± 5 %
Power Consumption	Operating (Typ.)	4.84 W
	Active idle (Typ.)	2.81 W
	Standby (Typ.)	0.36 W
Acoustics (Sound Power)	Low Power Idle (Typ.)	24 dB

ENVIRONMENTAL LIMITS

	Item	Specification
Ambient temperature	Operating	0 °C to 60 °C (No condensation)
	Non-Operating	- 40 °C to 70 °C (No condensation)
Enclosure surface temperature	Operating	0 °C to 70 °C (No condensation)
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	- 305 m to 12192 m
Shock	Operating	686 m/s^2 { 70 G } (2 ms duration)
	Non-Operating	6TB: 2940 m/s^2 { 300 G } / 4 TB: 3430 m/s^2 { 350 G } (2 ms duration)
Vibration	Operating	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	29.4 m/s^2 { 3.0 G } (5 to 500 Hz)

RELIABILITY

Item	Specification
MTTF / AFR	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 SPECIFICATIONS

Item	DS60HKVS-VX1	
Width	101.6 mm ± 0.25 mm	
Height (Max)	26.1 mm	

Length (Max)	147.0 mm
Weight (Max)	680 g

[1] Number of surveillance cameras support capability is defined by performance simulation with High Definition cameras at 4 Mbit/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.
[7] A kibibyte (KiB) means 2^{10}, or 1024 bytes, a mebibyte (MB) means 2^{20}, or 1 048 576 bytes, and a gibibyte (GiB) means 2^{30}, or 1 073 741 824 bytes.
[8] The maximum sustained data rateand interface speed may be restricted to the response speed of host system and by transmission characteristics. 1 Gb/s = 1 000 000 000 bit/s. 1 MB/s = 1 048 576 B/s
[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 -0.3V (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] Operation of high surface temperature will be shortened of the drives useful life. The recommendation operating condition of surface temperature is less than 60℃.
[15] Vibration applied to the HDD is measured at near the mounting screw hole on the frame as much as possible.
[16] At random seek write/read and default on retry setting with log sweep vibration.
[17] At power-off state after installation.