Kinetic HDD

Data Sheet

Revolutionizing Cloud Data Storage

- The world's first Ethernet-connected HDD with an open source object API
- Reduces TCO by simplifying cloud and data center storage hardware and software stacks
- Improves performance by eliminating layers of antiquated file system software
- Enables flexible and independent scaling of compute and storage growth
- Supports hyperscale 24×7 environments with up to 800 drives in a 40U rack
- Connects storage directly to existing data center data communications fabric
- State-free key/value object store with provided Kinetic API libraries

Best-Fit Applications

- Object data storage
- Hyperscale and scale-out storage
- Cloud storage arrays
- Cloud backup storage

Specifications	4TB[1,2]
Model Number	ST4000NK0001
Interface	Dual SGMII Ethernet 1Gb/s
Performance	
DDR2 Cache, Multisegmented (MB)	64
RAM (MB)	512
I/O Data Transfer Rate (MB/s max)	60
Rotational Vibration Tolerance @ 20Hz to 1500Hz, w/RVFF (rad/s²)	12.5
Linear Random Vibration @ 10Hz to 500Hz (G$_{rms}$ ref)	4.9
Configuration	
Heads/Disks	8/4
Object Size (KB)	1024
Guaranteed Objects per Drive	3,906,250
Reliability/Data Integrity	
Load/Unload Cycles (25°C, 50% relative humidity)	300,000
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E14
Mean Time Between Failures (MTBF) (hours)	800,000
Power-On Hours	8760 (24×7)
Power Management	
Maximum Spin-up Mode (W) (+5V/+12V)	5.0/19.2
Average Put/Get Operation Mode (W) (+5V/+12V)	4.25/3.6
Voltage Tolerance (including noise)	5V ± 5% 12V ± 10%
Environmental	
Operating Temperature (°C)	5 to 60
Nonoperating Temperature (°C)	−40 to 70
Relative Humidity, Operating/Nonoperating (%)	5 to 90/5 to 95
Acoustics (typical/max, bels)	2.8/3.0
Physical	
Height (mm/in)[3]	26.1/1.028
Width (mm/in)[3]	101.85/4.010
Depth (mm/in)[3]	147.00/5.787
Weight (g/lb)	608/1.34
Carton Unit Quantity	20
Cartons per Pallet	40
Cartons per Layer	8
Special Features	
Seagate Instant Secure Erase	Yes
Simple GetLog Command Usage	Yes
State-Free Key/Value Object Store With Remote Procedure Calls (RPC)	Yes
Worldwide Name (WWN) Capability	Yes
Limited Warranty (years)	3

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.
2 Seagate recommends validating your configuration with your HBA manufacturer to ensure full 4TB capacity capabilities.
3 These base deck dimensions conform to the Small Form Factor Standard (SFF-8301) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8323.

www.seagate.com