Terascale™ HDD

Data Sheet

High-Capacity, Eco-Friendly, Cost-Effective Storage for Web-Scale Data Centres

- Affordable storage for 24×7 multi-drive replicated environments
- High vibration tolerance for reliable enterprise-class performance
- Low power and cooling costs with the lowest 3.5-inch enterprise drive operating power
- Advanced format logical block management for industry-leading data integrity
- 4TB per drive enables scalable high-capacity storage in 24×7 environments.
- Lower TCO with Seagate® Instant Secure Erase for simple drive repurposing or disposal
- SATA 6Gb/s interface optimises burst performance.

Best-fit Applications

- Web-scale computing
- Cloud storage servers
- Cloud storage arrays
- Cloud backup storage
- Direct-attached external storage devices (DAS)
- Network-attached storage devices (NAS)

Terascale™ HDD

Specifications	4TB[1,2]
Seagate Instant Secure Erase (ISE) Model	ST4000NC000
Non-ISE Model[3]	ST4000NC001
Interface	SATA 6Gb/s
Performance	
DDR2 Cache, Multi-segmented (MB)	64
SATA Transfer Rates Supported (Gb/s)	6.0/3.0/1.5
Sustained Data Transfer Rate (MB/s)	600
Seek Average Read/Write (ms)	12.0/12.0
Max Sustained Data Rate, OD Read (MB/s)	140 to 170
Rotational Vibration Tolerance @ 20Hz to 1500Hz, w/RVFF (rad/s^2)	12.5
Linear Random Vibration @ 10Hz to 500Hz (G$_{rms}$ ref)	4.9
Configuration	
Heads/Discs	8/4
Bytes per Sector (512-byte emulation)	4,096
Reliability/Data Integrity	
Load/Unload Cycles (25°C, 50% relative humidity)	300,000
Non-recoverable Read Errors per Bits Read, Max	1 per 10^{14}
Mean Time Between Failures (MTBF)	800,000
Power-on Hours	8,760 (24×7)
Power Management	
Operating Mode (typical, W)	6.49
Idling Power (W)	4.59
Standby/Sleep Mode (, W)	0.77
Voltage Tolerance (including noise)	5V ± 5% 12V ± 10%
Environmental	
Operating Temperature (°C)	5 to 60
Non-operating Temperature (°C)	−40 to 70
Relative Humidity, Operating/Non-operating (%)	5 to 90/5 to 95
Acoustics (typical/max bels)	2.8/3.0
Physical	
Height (mm/in)[4]	26.1/1.028
Width (mm/in)[4]	101.85/4.010
Depth (mm/in)[4]	147.00/5.787
Weight (g/lb)	606/1.33
Carton Unit Quantity	20
Cartons per Pallet	40
Cartons per Layer	8
Special Features	
Seagate Instant Secure Erase	Optional
Flagged Write Uncorrectable (Logical Block Management)	Yes
PowerChoice™ On-Demand Power Savings	Yes
SeaTools™ Diagnostic Software	Yes
SMART Drive Monitoring and Reporting	Yes
Hotplug Operation (per SATA Rev. 3.0 Specifications)	Yes
Enterprise CS Phone Support	Limited
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] Non-ISE models for exception only and may not be readily available through your distribution network.

[4] 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.