

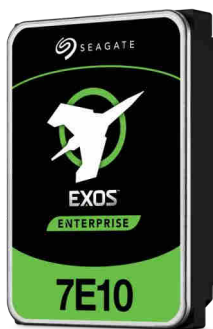


DATA SHEET

Trusted. Efficient. Versatile.  
**Exos 7E10**



The Seagate® Exos™ 7E10 enterprise hard drive confidently stores up to 10 TB of data without sacrificing performance. The secure, high-capacity, high-performance drives are optimised for demanding enterprise bulk data applications.



### Best-Fit Applications

- Hyperscale applications/cloud data centres
- Massive scale-out data centres
- OLTP and HPC applications
- High-capacity density RAID storage
- Mainstream enterprise external storage arrays
- Distributed file systems, including Hadoop and Ceph
- Enterprise backup and restore — D2D, virtual tape
- Centralised surveillance



### Enterprise Drive for Bulk Data Applications

Exos 7E10 hard drives support up to 10 TB per drive,<sup>1</sup> offering bulk data storage for data centre infrastructures requiring a highly reliable enterprise hard drive. Exos 7E10 provides cost-effective, reliable access to unstructured data. The Exos 7E10 drive helps to catalyse the datasphere, enabling data centre architects and IT professionals to deliver trusted performance, rock-solid reliability, ironclad security, and low TCO for demanding 24×7 operations.

### Robust Bulk Data Storage for a 24×7 World

Exos 7E10 drives are backed by a 2 million hour MTBF rating and support workloads of 550 TB per year — 10× that of desktop hard drives. With state-of-the-art cache, on-the-fly error-correction algorithms, and rotational vibration design, the Exos 7E10 helps ensure consistent performance in replicated and RAID multi-drive systems.

### High Performance for Mainstream Data Centre Applications

Meet your storage workload requirements in the most efficient and cost-effective data centre footprint on the market today. The Exos 7E10 delivers easy integration into bulk storage systems with 12 Gb/s SAS and SATA 6 Gb/s interface options. With user-definable innovative technology advancements like PowerChoice™ and Seagate RAID Rebuild®, you can tailor your nearline storage requirements for even greater improvements in lowering your TCO.

### Enhanced Reliability, Data Protection, and Security

Advanced security features help protect data where it lives — on the drive. Exos 7E10 prevents unauthorised drive access and safeguards stored data with security features that include Secure Downloads & Diagnostics, TCG-compliant Self-Encrypting Drive, and government-grade FIPS/Common Criteria tamper-resistant hard drive.<sup>2</sup> Seagate Secure™ drives simplify drive repurposing and disposal, help protect data-at-rest, and comply with corporate and federal data security mandates.

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

<sup>2</sup> Self-Encrypting Drives (SED) are not available in all models or countries. May require TCG-compliant host or controller support.



Specifications	512n SATA		
	6 TB	4 TB	2 TB
Capacity	6 TB	4 TB	2 TB
Standard	ST6000NM000B	ST4000NM000B	ST2000NM000B
PowerBalance™ Model **	—	—	—
Seagate Secure™ SED Model <sup>1</sup> **	—	ST4000NM006B	ST2000NM006B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	—	ST4000NM012B	—
**not all models will be generally offered as standard configurations	—	—	—
<b>Features</b>			
Protection Information (T10 DIF)	—	—	—
SuperParity	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>			
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760
Bytes per Sector	512	512	512
Warranty, Limited (years)	5	5	5
<b>Performance</b>			
Spindle Speed (RPM)	7,200	7,200	7,200
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5
Max. Sustained Transfer Rate OD	215MB/s	215MB/s	215MB/s
Average Latency (ms)	4.16	4.16	4.16
Interface Ports	Single	Single	Single
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5
<b>Power Consumption</b>			
Idle Power, Average (W)	7.06	6.04	5.16
Typical Operating, Random Read (W)	11.03	10.32	9.4
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>			
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300
<b>Physical</b>			
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	716 g/1.58 lb	650 g/1.43 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.



Specifications	512n SAS		
Capacity	6 TB	4 TB	2 TB
Standard	ST6000NM001B	ST4000NM001B	ST2000NM001B
PowerBalance™ Model **	—	—	—
Seagate Secure™ SED Model <sup>1</sup> **	—	ST4000NM007B	ST2000NM007B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	—	ST4000NM013B	—
**not all models will be generally offered as standard configurations	—	—	—
<b>Features</b>			
Protection Information (T10 DIF)	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>			
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	2.27	2.27	2.27
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760
Bytes per Sector	512	512	512
Warranty, Limited (years)	5	5	5
<b>Performance</b>			
Spindle Speed (RPM)	7,200	7,200	7,200
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0
Max. Sustained Transfer Rate OD	236MB/s	236MB/s	236MB/s
Average Latency (ms)	4.16	4.16	4.16
Interface Ports	Dual	Dual	Dual
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5
<b>Power Consumption</b>			
Idle Power, Average (W)	7.24	6.59	5.9
Typical Operating, Random Read (W)	11.34	10.8	10.3
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>			
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300
<b>Physical</b>			
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	716 g/1.58 lb	620 g/1.37 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.



Specifications	512e/4KN (FastFormat™) SATA				
	10 TB	8 TB	6 TB	4 TB	2 TB
Capacity	10 TB	8 TB	6 TB	4 TB	2 TB
Standard	ST1000NM017B	ST8000NM017B	ST6000NM019B	ST4000NM024B	ST2000NM017B
PowerBalance™ Model **	ST1000NM025B	ST8000NM025B	ST6000NM027B	—	—
Seagate Secure™ SED Model <sup>1</sup> **	ST1000NM019B	ST8000NM019B	ST6000NM021B	ST4000NM026B	ST2000NM019B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST1000NM021B	ST8000NM021B	ST6000NM023B	ST4000NM028B	—
**not all models will be generally offered as standard configurations	—	—	—	—	—
<b>Features</b>					
Protection Information (T10 DIF)	—	—	—	—	—
SuperParity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>					
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	5	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760	8,760	8,760
Bytes per Sector	512	512	512	512	512
Warranty, Limited (years)	5	5	5	5	5
<b>Performance</b>					
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
Interface Access Speed (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	263MB/s	255MB/s	250MB/s	250MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single	Single
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
<b>Power Consumption</b>					
Idle Power, Average (W)	7.8	7.06	7.06	5.16	5.16
Typical Operating, Random Read (W)	11.8	11.03	11.03	9.4	9.4
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300	150/300	150/300
<b>Physical</b>					
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	720 g/1.59 lb	716 g/1.58 lb	716 g/1.58 lb	620 g/1.37 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8	40/8

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.



Specifications	512e/4KN (FastFormat) SAS				
	10 TB	8 TB	6 TB	4 TB	2 TB
Capacity	10 TB	8 TB	6 TB	4 TB	2 TB
Standard	ST1000NM018B	ST8000NM018B	ST6000NM020B	ST4000NM025B	ST2000NM018B
PowerBalance™ Model **	—	—	—	—	—
Seagate Secure™ SED Model <sup>1</sup> **	ST1000NM020B	ST8000NM020B	ST6000NM022B	ST4000NM027B	ST2000NM020B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST1000NM022B	ST8000NM022B	ST6000NM024B	ST4000NM029B	—
**not all models will be generally offered as standard configurations	—	—	—	—	—
<b>Features</b>					
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>					
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	5	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760	8,760	8,760
Bytes per Sector	512, 520, 528	512, 520, 528	512, 520, 528	512, 520, 528	512, 520, 528
Warranty, Limited (years)	5	5	5	5	5
<b>Performance</b>					
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0
Max. Sustained Transfer Rate OD	263MB/s	255MB/s	250MB/s	250MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Dual	Dual	Dual	Dual	Dual
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
<b>Power Consumption</b>					
Idle Power, Average (W)	8.14	7.24	6.59	5.9	5.9
Typical Operating, Random Read (W)	12.26	11.34	10.8	10.3	10.3
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300	150/300	150/300
<b>Physical</b>					
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	720 g/1.59 lb	716 g/1.58 lb	650 g/1.43 lb	620 g/1.37 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8	40/8

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.



Specifications	4Kn SATA				
Capacity	10 TB	8 TB	6 TB	4 TB	2 TB
Standard	ST1000NM002B	ST8000NM002B	ST6000NM004B	ST4000NM004B	ST2000NM004B
PowerBalance™ Model **	—	—	—	—	—
Seagate Secure™ SED Model <sup>1</sup> **	ST1000NM006B	ST8000NM006B	ST6000NM008B	ST4000NM010B	ST2000NM010B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	—	—	—	—	—
**not all models will be generally offered as standard configurations	—	—	—	—	—
<b>Features</b>					
Protection Information (T10 DIF)	—	—	—	—	—
SuperParity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>					
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	5	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760	8,760	8,760
Bytes per Sector	4,096	4,096	4,096	4,096	4,096
Warranty, Limited (years)	5	5	5	5	5
<b>Performance</b>					
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
Interface Access Speed (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	263MB/s	255MB/s	250MB/s	250MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Single	Single	Single	Single	Single
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
<b>Power Consumption</b>					
Idle Power, Average (W)	7.8	7.06	6.04	5.16	5.16
Typical Operating, Random Read (W)	11.8	11.03	10.32	9.4	9.4
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300	150/300	150/300
<b>Physical</b>					
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	720 g/1.59 lb	716 g/1.58 lb	650 g/1.43 lb	620 g/1.37 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8	40/8

<sup>1</sup> Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

<sup>2</sup> These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.



Specifications	4Kn SAS				
	10 TB	8 TB	6 TB	4 TB	2 TB
Capacity	10 TB	8 TB	6 TB	4 TB	2 TB
Standard	ST1000NM003B	ST8000NM003B	ST6000NM005B	ST4000NM005B	ST2000NM005B
PowerBalance™ Model **	—	—	—	—	—
Seagate Secure™ SED Model <sup>1</sup> **	ST1000NM007B	ST8000NM007B	ST6000NM009B	ST4000NM011B	ST2000NM011B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST1000NM011B	ST8000NM011B	ST6000NM013B	ST4000NM017B	—
**not all models will be generally offered as standard configurations	—	—	—	—	—
<b>Features</b>					
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	Yes
SuperParity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice™ Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
<b>Reliability/Data Integrity</b>					
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	5	5	5	5	5
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Reliability Rating @ Full 24x7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8,760	8,760	8,760	8,760	8,760
Bytes per Sector	4,096, 4,160, 4,224	4,096, 4,160, 4,224	4,096, 4,160, 4,224	4,096, 4,160, 4,224	4,096, 4,160, 4,224
Warranty, Limited (years)	5	5	5	5	5
<b>Performance</b>					
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
Interface Access Speed (Gb/s)	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0	12.0, 6.0, 3.0, 12.0, 6.0, 3.0	12.0, 6.0, 3.0
Max. Sustained Transfer Rate OD	263MB/s	255MB/s	250MB/s	250MB/s	226MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Interface Ports	Dual	Dual	Dual	Dual	Dual
Rotational Vibration @ 1,500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
<b>Power Consumption</b>					
Idle Power, Average (W)	8.14	7.24	6.59	5.9	5.9
Typical Operating, Random Read (W)	12.26	11.34	10.8	10.3	10.3
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
<b>Environmental</b>					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2 ms Read/Write (Gs)	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs	70/40 Gs
Shock, Non-operating, (1 ms/2 ms) (Gs)	150/300	150/300	150/300	150/300	150/300
<b>Physical</b>					
Height (in/mm, max) <sup>2</sup>	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm	1.028 in/26.11 mm
Width (in/mm, max) <sup>2</sup>	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm	4.01 in/101.85 mm
Depth (in/mm, max) <sup>2</sup>	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm	5.787 in/147 mm
Weight (lb/g)	720 g/1.59 lb	716 g/1.58 lb	650 g/1.43 lb	620 g/1.37 lb	620 g/1.37 lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8	40/8

1 Self-Encrypting Drives (SED), Instant Secure Erase (ISE) drives, and FIPS 140-3 Validated drives are not available in all models or countries. May require TCG-compliant host or controller support.

2 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at [www.sffcommittee.org](http://www.sffcommittee.org). For connector-related dimensions, see SFF-8223.

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