





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



#### **Best-Fit Applications**

- Hyperscale applications/cloud data centers
- Massive scale-out data centers
- 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
- Centralized surveillance



# Enterprise Drive for Bulk Data Applications

Exos 7E10 hard drives support up to 10TB per drive,<sup>1</sup> offering bulk data storage for data center infrastructures requiring a highly reliable enterprise hard drive. Exos 7E10 provides costeffective, reliable access to unstructured data. The Exos 7E10 drive helps to catalyze the datasphere, enabling data center 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 550TB 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 Center Applications

Meet your storage workload requirements in the most efficient and cost-effective data center footprint on the market today. The Exos 7E10 delivers easy integration into bulk storage systems with 12Gb/s SAS and SATA 6Gb/s interface options. With user-definable innovative technology advancements like PowerChoice<sup>™</sup> and Seagate RAID Rebuild<sup>®</sup>, 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 unauthorized 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-resistent hard drive.<sup>2</sup> Seagate Secure<sup>™</sup> drives simplify drive repurposing and disposal, help protect data-at-rest, and comply with corporate and federal data security mandates.

1 Seagate recommends validating your configuaration with your HBA/RAID controller manufacturer to ensure full capacity capabilities. 2 Self-Encrypting Drives (SED) are not available in all models or countries. May require TCG-compliant host or controller support.







Specifications		512n SATA		
Capacity	6TB	4TB	2TB	
Standard	ST6000NM000B	ST4000NM000B	ST2000NM000B	
PowerBalance <sup>™</sup> Model **	_	-		
Seagate Secure <sup>™</sup> 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				
Features				
Protection Information (T10 DIF)	_		_	
Super Parity	Yes	Yes	Yes	
Low Halogen	Yes	Yes	Yes	
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes	
PowerBalance Technology	Yes	Yes	Yes	
Cache, Multisegmented (MB)	256	256	256	
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	
Reliability/Data Integrity				
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	5	5	5	
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	
Reliability Rating @ Full 24×7 Operation (AFR)	0.44%	0.44%	0.44%	
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	
Power-On Hours per Year	8760	8760	8760	
Sector Size (Bytes per Logical Sector)	512	512	512	
Warranty, Limited (years)	5	5	5	
Performance	·			
Spindle Speed (RPM)	7200	7200	7200	
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5	
May Custoined Transfer Date OD				
Max. Sustained Transfer Rate OD	215MB/s	215MB/s	215MB/s	
Max. Sustained Transfer Rate OD Average Latency (ms)	215MB/s 4.16	215MB/s 4.16	215MB/s 4.16	
Average Latency (ms)	4.16	4.16	4.16	
Average Latency (ms) Interface Ports	4.16 Single	4.16 Single	4.16 Single	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s²)	4.16 Single	4.16 Single	4.16 Single	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s²) Power Consumption	4.16 Single 12.5	4.16 Single 12.5	4.16 Single 12.5	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s²) Power Consumption Idle Power, Average (W)	4.16 Single 12.5 7.06	4.16 Single 12.5 6.04	4.16 Single 12.5 5.16	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s²) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W)	4.16 Single 12.5 7.06 11.03	4.16 Single 12.5 6.04 10.32	4.16 Single 12.5 5.16 9.4	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> ) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W) Power Supply Requirements	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5~ 60	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> ) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W) Power Supply Requirements Environmental	4.16 Single 12.5 7.06 11.03 +12 V and +5 V	4.16 Single 12.5 6.04 10.32 +12 V and +5 V	4.16 Single 12.5 5.16 9.4 +12 V and +5 V	
Average Latency (ms)         Interface Ports         Rotation Vibration @ 1500 Hz (rad/s²)         Power Consumption         Idle Power, Average (W)         Typical Operating, Random Read (W)         Power Supply Requirements         Environmental         Temperature, Operating (°C) Drive Reported	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5~ 60	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60	
Average Latency (ms)         Interface Ports         Rotation Vibration @ 1500 Hz (rad/s²)         Power Consumption         Idle Power, Average (W)         Typical Operating, Random Read (W)         Power Supply Requirements         Environmental         Temperature, Operating (°C) Drive Reported         Shock, Operating 2ms Read/Write (Gs)	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5 ~ 60 70/40Gs	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 70/40Gs	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60 70/40Gs	
Average Latency (ms)         Interface Ports         Rotation Vibration @ 1500 Hz (rad/s²)         Power Consumption         Idle Power, Average (W)         Typical Operating, Random Read (W)         Power Supply Requirements         Environmental         Temperature, Operating (°C) Drive Reported         Shock, Operating 2ms Read/Write (Gs)         Shock, Nonoperating, (1ms/2ms) (Gs)	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5 ~ 60 70/40Gs	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 70/40Gs	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60 70/40Gs	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> ) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W) Power Supply Requirements Environmental Temperature, Operating (°C) Drive Reported Shock, Operating 2ms Read/Write (Gs) Shock, Nonoperating, (1ms/2ms) (Gs) Physical	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5~ 60 70/40Gs 150/300	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 5 ~ 60 70/40Gs 150/300	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60 70/40Gs 150/300	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> ) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W) Power Supply Requirements Environmental Temperature, Operating (°C) Drive Reported Shock, Operating 2ms Read/Write (Gs) Shock, Nonoperating, (1ms/2ms) (Gs) Physical Height (in/mm, max) <sup>2</sup>	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5~ 60 70/40Gs 150/300 1.028in/26.11mm	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm	
Average Latency (ms) Interface Ports Rotation Vibration @ 1500 Hz (rad/s²) Power Consumption Idle Power, Average (W) Typical Operating, Random Read (W) Power Supply Requirements Environmental Temperature, Operating (°C) Drive Reported Shock, Operating 2ms Read/Write (Gs) Shock, Nonoperating, (1ms/2ms) (Gs) Physical Height (in/mm, max) <sup>2</sup>	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm 4.010in/101.85mm	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm 4.010in/101.85mm	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5~ 60 70/40Gs 150/300 1.028in/26.11mm 4.010in/101.85mm	
Average Latency (ms)         Interface Ports         Rotation Vibration @ 1500 Hz (rad/s²)         Power Consumption         Idle Power, Average (W)         Typical Operating, Random Read (W)         Power Supply Requirements         Environmental         Temperature, Operating (°C) Drive Reported         Shock, Operating 2ms Read/Write (Gs)         Shock, Nonoperating, (1ms/2ms) (Gs)         Physical         Height (in/mm, max) <sup>2</sup> Width (in/mm, max) <sup>2</sup>	4.16 Single 12.5 7.06 11.03 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm 4.010in/101.85mm 5.787in/147mm	4.16 Single 12.5 6.04 10.32 +12 V and +5 V 5 ~ 60 70/40Gs 1.028in/26.11mm 4.010in/101.85mm 5.787in/147.0mm	4.16 Single 12.5 5.16 9.4 +12 V and +5 V 5 ~ 60 70/40Gs 150/300 1.028in/26.11mm 4.010in/101.85mm 5.787in/147.0mm	





Specifications		512n SAS	
Capacity	6TB	4TB	2TB
Standard	ST6000NM001B	ST4000NM001B	ST2000NM001B
PowerBalance <sup>™</sup> Model **	_	_	_
Seagate Secure <sup>™</sup> 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			
Features		<u>.</u>	-
Protection Information (T10 DIF)	Yes	Yes	Yes
Super Parity	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes
Reliability/Data Integrity	· 		
Vibration, Nonoperating: 10Hz to 500Hz (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 24×7 Operation (AFR)	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512	512	512
Warranty, Limited (years)	5	5	5
Performance			
Spindle Speed (RPM)	7200	7200	7200
Interface Access Speed (Gb/s)	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
Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5
Power Consumption			
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
Environmental	,		
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300
Physical			
-			
Height (in/mm, max) <sup>2</sup>	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm
Height (in/mm, max) <sup>2</sup> Width (in/mm, max) <sup>2</sup>	1.028in/26.11mm 4.010in/101.85mm	1.028in/26.11mm 4.010in/101.85mm	1.028in/26.11mm 4.010in/101.85mm
Width (in/mm, max) <sup>2</sup>	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Width (in/mm, max) <sup>2</sup> Depth (in/mm, max) <sup>2</sup>	4.010in/101.85mm 5.787in/147.0mm	4.010in/101.85mm 5.787in/147.0mm	4.010in/101.85mm 5.787in/147.0mm





Specifications	512e/4KN (FastFormat <sup>™</sup> ) SATA				
Capacity	10TB	8TB	6TB	4TB	2TB
Standard	ST10000NM017B	ST8000NM017B	ST6000NM019B	ST4000NM024B	ST2000NM017B
PowerBalance <sup>™</sup> Model **	ST10000NM025B	ST8000NM025B	ST6000NM027B		
Seagate Secure <sup>TM</sup> SED Model <sup>1</sup> **	ST10000NM019B	ST8000NM019B	ST6000NM021B	ST4000NM026B	ST2000NM019B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST10000NM021B	ST8000NM021B	ST6000NM023B	ST4000NM028B	
		3100001010218	3100001010238	3140001101020B	-
**not all models will be generally offered as standard configurations					
Features Protection Information (T10 DIF)	_	_	_	_	_
Super Parity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes	Yes	Yes
					Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	
Cache, Multisegmented (MB)	256 Yes	256 Yes	256 Yes	256 Yes	256 Yes
Advanced Write Caching (8M internal NOR flash)	Yes	res	Yes	res	fes
Reliability/Data Integrity Vibration, Nonoperating: 10Hz to 500Hz (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 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Nonrecoverable 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	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512	512	512	512	512
Warranty, Limited (years)	5	5	5	5	5
Performance	5	3	3	3	5
Spindle Speed (RPM)	7200	7200	7200	7200	7200
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
Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
Power Consumption	12.0	12.0	12.0	12.0	12.0
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
Environmental					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Physical					
Height (in/mm, max) <sup>2</sup>	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm
Width (in/mm, max) <sup>2</sup>	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) <sup>2</sup>	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	720g/1.59lb	716g/1.58lb	716g/1.58lb	620g/1.37lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40 / 8	40 / 8	40 / 8	40/8	40 / 8





Specifications			512e/4KN (FastFormat) SAS		
Capacity	10TB	8TB	6TB	4TB	2TB
Standard	ST10000NM018B	ST8000NM018B	ST6000NM020B	ST4000NM025B	ST2000NM018B
PowerBalance <sup>™</sup> Model **	_	_	_	_	_
Seagate Secure <sup>™</sup> SED Model <sup>1</sup> **	ST10000NM020B	ST8000NM020B	ST6000NM022B	ST4000NM027B	ST2000NM020B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST10000NM022B	ST8000NM022B	ST6000NM024B	ST4000NM029B	_
**not all models will be generally offered as standard configurations	_	_	_	_	_
Features			·		
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	Yes
Super Parity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (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 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Nonrecoverable 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	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512, 520, 528	512, 520, 528	512, 520, 528	512, 520, 528	512, 520, 528
Warranty, Limited (years)	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	7200
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	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
Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
Power Consumption					
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
Environmental				_	
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Physical					
Height (in/mm, max) <sup>2</sup>	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm
Width (in/mm, max) <sup>2</sup>	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) <sup>2</sup>	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	720g/1.59lb	716g/1.58lb	650g/1.43lb	620g/1.37lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20	20
	1				





Specifications			4Kn SATA		
Capacity	10TB	8TB	6TB	4TB	2TB
Standard	ST10000NM002B	ST8000NM002B	ST6000NM004B	ST4000NM004B	ST2000NM004B
PowerBalance <sup>™</sup> Model **	_	_	_	_	_
Seagate Secure <sup>™</sup> SED Model <sup>1</sup> **	ST10000NM006B	ST8000NM006B	ST6000NM008B	ST4000NM010B	ST2000NM010B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	_		_		_
**not all models will be generally offered as standard configurations	_	_	_	_	_
Features				<u>.</u>	
Protection Information (T10 DIF)	_	—	_	_	_
Super Parity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (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 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15				
Power-On Hours per Year	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	4096	4096	4096	4096	4096
Warranty, Limited (years)	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	7200
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
Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
Power Consumption					
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 Environmental	+12 V and +5 V				
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Physical					
Height (in/mm, max) <sup>2</sup>	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm
Width (in/mm, max) <sup>2</sup>	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) <sup>2</sup>	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	720g/1.59lb	716g/1.58lb	650g/1.43lb	620g/1.37lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8	40/8	40/8





Specifications			4Kn SAS		
Capacity	10TB	8TB	6TB	4TB	2TB
Standard	ST10000NM003B	ST8000NM003B	ST6000NM005B	ST4000NM005B	ST2000NM005B
PowerBalance <sup>™</sup> Model **	-	-	—	-	-
Seagate Secure <sup>™</sup> SED Model <sup>1</sup> **	ST10000NM007B	ST8000NM007B	ST6000NM009B	ST4000NM011B	ST2000NM011B
Seagate Secure SED-FIPS 140-3 Model <sup>1</sup> **	ST10000NM011B	ST8000NM011B	ST6000NM013B	ST4000NM017B	_
**not all models will be generally offered as standard configurations	_	_	_	_	_
Features					,
Protection Information (T10 DIF)	Yes	Yes	Yes	Yes	Yes
Super Parity	Yes	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes	Yes
PowerChoice <sup>™</sup> Technology	Yes	Yes	Yes	Yes	Yes
PowerBalance Technology	Yes	Yes	Yes	Yes	Yes
Cache, Multisegmented (MB)	256	256	256	256	256
Advanced Write Caching (8M internal NOR flash)	Yes	Yes	Yes	Yes	Yes
Reliability/Data Integrity					
Vibration, Nonoperating: 10Hz to 500Hz (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 24×7 Operation (AFR)	0.44%	0.44%	0.44%	0.44%	0.44%
Nonrecoverable Read Errors per Bits Read	1 sector per 10E15				
Power-On Hours per Year	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	4096, 4160, 4224	4096, 4160, 4224	4096, 4160, 4224	4096, 4160, 4224	4096, 4160, 4224
Warranty, Limited (years)	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200	7200	7200	7200	7200
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	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
Rotation Vibration @ 1500 Hz (rad/s <sup>2</sup> )	12.5	12.5	12.5	12.5	12.5
Power Consumption					
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				
Environmental					
Temperature, Operating (°C) Drive Reported	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60	5 ~ 60
Shock, Operating 2ms Read/Write (Gs)	70/40Gs	70/40Gs	70/40Gs	70/40Gs	70/40Gs
Shock, Nonoperating, (1ms/2ms) (Gs)	150/300	150/300	150/300	150/300	150/300
Physical					
Height (in/mm, max) <sup>2</sup>	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm	1.028in/26.11mm
Width (in/mm, max) <sup>2</sup>	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm	4.010in/101.85mm
Depth (in/mm, max) <sup>2</sup>	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm	5.787in/147.0mm
Weight (g/lb)	720g/1.59lb	716g/1.58lb	650g/1.43lb	620g/1.37lb	620g/1.37lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40 / 8	40/8	40 / 8	40/8	40 / 8

#### seagate.com



© 2021 Seagate Technology LLC. All rights reserved. Seagate, Seagate Technology, and the Spiral logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Exos, the Exos logo, FastFormat, PowerBalance, PowerChoice, Seagate RAID Rebuild, Seagate Secure, and the Seagate Secure logo are either trademarks or registered trademarks of seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual data rates may vary depending on operating environment and other factors, such as chosen interface and disk capacity. The export or re-export of Seagate hardware or software is regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit www.bis.doc.gov), and may be controlled for export, import, and use in other countries. Seagate reserves the right to change, without notice, product offerings or specifications. DS1957.6M-2104US April 2021