



DATA SHEET

Scalable. Responsive. Innovative.

Exos X18

Seagate manufactures hard drives that specifically address the demand for hyperscale cloud scalability. As the flagship of the Seagate[®] X class, the Exos[®] X18 enterprise hard drives are the highest-capacity hard drives in the fleet.





Best-Fit Applications

- Scalable hyperscale applications/cloud data centers
- Massive scale-out data centres
- Big data 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

Maximum Storage Capacity for Highest Rack Space Efficiency

Market-leading 18 TB HDD offering the highest capacity available for more petabytes per $rack^{\uparrow}$

Highly reliable performance with enhanced caching, making it the logical choice for cloud data centre and massive scale-out data centre applications

Hyperscale SATA model tuned for large data transfers and low latency

PowerBalance[™] feature optimises Watts/TB

Maximise total cost of ownership savings through lower power and weight with helium sealed-drive design

Proven helium side-sealing weld technology for added handling robustness and leak protection

Digital environmental sensors to monitor internal drive conditions for optimal operation and performance

Data protection and security — Seagate Secure [™] features for safe, affordable, fast and easy drive retirement

Proven enterprise-class reliability backed by **5-year limited warranty and 2.5M-hr MTBF rating**

¹ Compared to 14 TB competitive product





Searchy	Specifications	SATA 6 Gb/s	12 Gb/s SAS	SATA 6 Gb/s	12 Gb/s SAS
ST16000NM000L ST16000NM000					
SEED Model FastFormat (512a/4kfn) ST16000NM001J ST1600NM001J ST1600NM0001J ST16					
SEED-FIPS Fast Format (512e-446n)					
Page		0110000NW0010		011000014W10010	
Hellum Sealed Drive Design	, ,	_	31 1800011110073		311000011110073
Ves		Voc	Voc	Vos	Voc
Protection Information (T10 DIF)					
SuperParity				163	
Vest	, ,			Vac	
PowerCholice Idle Power Technology					
Yes					
Yes Cache, Multi-egimented (MB) 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256 256	714				
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Organic Solderability Preservative Yes <	•				
ASA 3072 Firmware Verification (SD&D) Yes Yes Yes Yes Yes Yes Yes AllabilityData Integrity AllabilityData Integrity AllabilityData Integrity AllabilityData Integrity AllabilityData Integrity AllabilityData Integrity Bear Time Between Failures (MTBF, hours) 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,5					
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Reliability Rating @ Full 24×7 Operation (AFR) 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.35% 0.36% 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0.3760 0	, , ,	0.500.000	0.500.000	0.500.000	0.500.000
Non-recoverable Read Errors per Bits Read 1 sector per 10E15 1 sec	, , ,				
Power-On Hours per Year (24x7) 8,760 8,760 8,760 8,760 8,760 512e Sector Size (Bytes per Sector) 512 512, 520, 528 512 512, 520, 528 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 4,096 4,096, 4,160, 4,224 5,000 8,000 12.0, 6.0, 3.0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					
S12e Sector Size (Bytes per Sector) S12 S12, S20, S28 S12 S12, S20, S28	'	· ·			
## Sector Size (Bytes per Sector)			-		
Spindle Speed (RPM) 7,200 RPM 7,200					
Performance Spindle Speed (RPM) 7,200 RPM 7,20					
Power Supply Requirements	,	5	5	5	5
Interface Access Speed (Gb/s) 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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		7.000 BBM	7.000 DDM	7.000 BBM	7.000 DDM
Max. Sustained Transfer Rate OD (MB/s, MiB/s) 270/258 270/258 261/249 261/249 Random Read/Write 4K QD16 WCD (IOPS) 170/550 170/550 170/550 170/550 Average Latency (ms) 4.16 4.16 4.16 4.16 Interface Ports Single Dual Single Dual Rotation Vibration @ 20-1500 Hz (rad/sec²) 12.5 12.5 12.5 12.5 POWER CONSUMPTION Idle A (W) Average 5.3 W 5.8 W 5.3 W 5.8 W Max Operating, Random Read/Write 4K/16Q (W) 9.4, 6.4 9.9, 7.0 9.4, 6.4 9.9, 7.0 Power Supply Requirements +12 V and +5 V Environmental Temperature, Operating (°C) 5°C – 60°C 5°C –		· ·	•	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Random Read/Write 4K QD16 WCD (IOPS) 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 170/550 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	. , ,	-			
Average Latency (ms) 4.16 4.16 4.16 4.16 4.16 4.16 A.16 A.10 A.					
Single Dual Single Dual Single Dual Single Dual Rotation Vibration @ 20-1500 Hz (rad/sec°) 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.	` '				
Rotation Vibration @ 20-1500 Hz (rad/sec²) 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5					
Depth (mm/in, max) Depth (Dual
Idle A (W) Average 5.3 W 5.8 W 5.3 W 5.8 W Max Operating, Random Read/Write 4K/16Q (W) 9.4, 6.4 9.9, 7.0 9.4, 6.4 9.9, 7.0 Power Supply Requirements +12 V and +5 V Environmental Temperature, Operating (°C) 5°C - 60°C 5°C - 60°C 5°C - 60°C 5°C - 60°C Vibration, Non-operating: 2 to 500 Hz (Grms) 2.27 2.27 2.27 2.27 Shock, Operating 2 ms (Read/Write) (Gs) 50 50 50 50 Shock, Non-operating 2 ms (GS) 200 200 200 200 Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 26.1 mm/1.028 in 26.1 mm/1.028 in 26.1 mm/1.028 in 26.1 mm/4.01 in 101.85 mm/4.01 in	Rotation Vibration @ 20-1500 Hz (rad/sec ²)	12.5	12.5		
Max Operating, Random Read/Write 4K/16Q (W) 9.4, 6.4 9.9, 7.0 9.4, 6.4 9.9, 7.0 Power Supply Requirements +12 V and +5 V Environmental Temperature, Operating (°C) 5°C - 60°C 5°C - 60°C 5°C - 60°C 5°C - 60°C Vibration, Non-operating: 2 to 500 Hz (Grms) 2.27 2.27 2.27 2.27 Shock, Operating 2 ms (Read/Write) (Gs) 50 50 50 50 Shock, Non-operating 2 ms (GS) 200 200 200 200 Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 26.1 mm/1.028 in 26.1 mm/1.028 in 26.1 mm/1.028 in Weight (mm/in, max) ⁴ 101.85 mm/4.01 in Depth (mm/in, max) ⁴ 147 mm/5.787 in 670 g/1.477 lb 670 g/1.477 lb <td>DOWED CONCURRENCE</td> <td>12.0</td> <td>12.5</td> <td>12.5</td> <td>12.5</td>	DOWED CONCURRENCE	12.0	12.5	12.5	12.5
Power Supply Requirements	POWER CONSUMPTION				
Environmental Temperature, Operating (°C)	Idle A (W) Average	5.3 W	5.8 W	5.3 W	5.8 W
Temperature, Operating (°C)	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W)	5.3 W 9.4, 6.4	5.8 W 9.9, 7.0	5.3 W 9.4, 6.4	5.8 W 9.9, 7.0
Vibration, Non-operating: 2 to 500 Hz (Grms) 2.27 2.27 2.27 2.27 Shock, Operating 2 ms (Read/Write) (Gs) 50 50 50 50 Shock, Non-operating 2 ms (GS) 200 200 200 200 Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 101.85 mm/4.01 in 101.85 m	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements	5.3 W 9.4, 6.4	5.8 W 9.9, 7.0	5.3 W 9.4, 6.4	5.8 W 9.9, 7.0
Shock, Operating 2 ms (Read/Write) (Gs) 50 50 50 50 Shock, Non-operating 2 ms (GS) 200 200 200 200 200 Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 101.85 mm/4.01 i	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental	5.3 W 9.4, 6.4 +12 V and +5 V	5.8 W 9.9, 7.0 +12 V and +5 V	5.3 W 9.4, 6.4 +12 V and +5 V	5.8 W 9.9, 7.0 +12 V and +5 V
Shock, Non-operating 2 ms (GS) 200 200 200 200 Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 101.85 mm/4.01 in </td <td>Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C)</td> <td>5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C</td> <td>5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C</td> <td>5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C</td> <td>5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C</td>	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C
Physical Height (mm/in, max) ⁴ 26.1 mm/1.028 in 101.85 mm/4.01 in 101.85 mm/4.0	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27
Height (mm/in, max) ⁴ 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in 147 mm/5.787 in 147 mm/5.787 in 147 mm/5.787 in 670 g/1.477 lb 20 20 20 20	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50
Width (mm/in, max) ⁴ 101.85 mm/4.01 in	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50
Depth (mm/in, max) ⁴ 147 mm/5.787 in 147 mm/5.787 in 147 mm/5.787 in 147 mm/5.787 in Weight (lb/g) 670 g/1.477 lb 670 g/1.477 lb 670 g/1.477 lb 670 g/1.477 lb Carton Unit Quantity 20 20 20 20	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200
Weight (lb/g) 670 g/1.477 lb Carton Unit Quantity 20 20 20 20	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200
Carton Unit Quantity 20 20 20 20	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS)	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200
·	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS) Physical Height (mm/in, max) ⁴	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in
Cartons per Pallet / Cartons per Layer 40/8 40/8 40/8	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS) Physical Height (mm/in, max) ⁴ Width (mm/in, max) ⁴	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in
	Idle A (W) Average Max Operating, Random Read/Write 4K/16Q (W) Power Supply Requirements Environmental Temperature, Operating (°C) Vibration, Non-operating: 2 to 500 Hz (Grms) Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating 2 ms (GS) Physical Height (mm/in, max) ⁴ Width (mm/in, max) ⁴ Depth (mm/in, max) ⁴	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in 670 g/1.477 lb	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in 670 g/1.477 lb	5.3 W 9.4, 6.4 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in 670 g/1.477 lb	5.8 W 9.9, 7.0 +12 V and +5 V 5°C - 60°C 2.27 50 200 26.1 mm/1.028 in 101.85 mm/4.01 in 147 mm/5.787 in 670 g/1.477 lb

¹ FastFormat models ship in 512e format state. When switching from 512e to 4Kn by executing the FastFormat routine, all data on the drive will be deleted. Note that data must be aligned to 4K sectors to see improved performance in 4Kn format.

² Self-Encrypting Drives (SED) and FIPS 140-2 Validated drives available through franchised authorised distributors. May require TCG-compliant host or controller support.

³ Supports Hotplug operation per Serial ATA Revision 3.3 specification

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.

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