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[1]

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

EXOS ENTERPRISE

Specifications	SATA 6 Gb/s	12 Gb/s SAS	SATA 6 Gb/s	12 Gb/s SAS
Capacity	18TB	18TB	16TB	16TB
Standard Model FastFormat™ (512e/4Kn)[1]	ST18000NM000J	ST18000NM004J	ST16000NM000J	ST16000NM004J
SED Model FastFormat (512e/4Kn)[1,2]	ST18000NM001J	ST18000NM005J	ST16000NM001J	ST16000NM005J
SED-FIPS FastFormat (512e/4Kn)[1,2]	—	ST18000NM007J	—	ST16000NM007J
Features				
Helium Sealed-Drive Design	Yes	Yes	Yes	Yes
Conventional Magnetic Recording (CMR)	Yes	Yes	Yes	Yes
Protection Information (T10 DIF)	—	Yes	—	Yes
SuperParity	Yes	Yes	Yes	Yes
Low Halogen	Yes	Yes	Yes	Yes
PowerChoice™ Idle Power Technology	Yes	Yes	Yes	Yes
PowerBalance™ Power/Performance Technology	Yes	Yes	Yes	Yes
Hot-Plug Support[3]	Yes	Yes	Yes	Yes
Cache, Multi-segmented (MB)	256	256	256	256
Organic Solderability Preservative	Yes	Yes	Yes	Yes
RSA 3072 Firmware Verification (SD&D)	Yes	Yes	Yes	Yes
Reliability/Data Integrity				
Mean Time Between Failures (MTBF, hours)	2,500,000	2,500,000	2,500,000	2,500,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.35%	0.35%	0.35%	0.35%
Non-recoverable Read Errors per Bits Read	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15	1 sector per 10E15
Power-On Hours per Year (24×7)	8,760	8,760	8,760	8,760
512e Sector Size (Bytes per Sector)	512	512, 520, 528	512	512, 520, 528
4Kn Sector Size (Bytes per Sector)	4,096	4,096, 4,160, 4,224	4,096	4,096, 4,160, 4,224
Limited Warranty (years)	5	5	5	5
Performance				
Spindle Speed (RPM)	7,200 RPM	7,200 RPM	7,200 RPM	7,200 RPM
Interface Access Speed (Gb/s)	6.0, 3.0	12.0, 6.0, 3.0	6.0, 3.0	12.0, 6.0, 3.0
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	+12 V and +5 V	+12 V and +5 V	+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
Width (mm/in, max)[4]	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in
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
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8

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 fomat.

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.