DATA SHEET

Lightspeed. Solid. Impressive.

Nytro 5000 NVMe SSD

The Seagate® Nytro® 5000 NVMe solid state drive (SSD) represents the next generation of enterprise SSDs. Engineered for low power, high performance and increased storage density in data centres, Nytro 5000 SSD eliminates performance bottlenecks and significantly improves quality of service (QoS).

Key Features and Benefits

- PCIe Gen3 ×4 interface with NVMe protocol
- Up to 35,000 IOPS/W performance
- Industry-leading density of up to 1.92 TB in 2.5-inch and M.2 form factors
- Host-selectable power optimisation
- Multiple namespace support for greater deployment flexibility

Best-Fit Applications

- Public and private cloud
- Hyperscale data centres
- Caching and tiering

Overcome Data Bottlenecks and Improve QoS

Nytro 5000 NVMe SSD is highly optimised for read-intensive and mixed workloads. Incorporating the PCIe Gen3 ×4 interface with the NVMe protocol, Nytro 5000 SSD features four times the bandwidth of SATA SSDs, removing data bottlenecks by delivering blistering throughput and IOPS.

Nytro 5000 SSD also features sideband management for monitoring the health of the SSDs without introducing latency or disrupting overall throughput.

Increase Storage Density and Efficiency in Data Centres

The low-power Nytro 5000 SSD is offered in both 2.5-inch and M.2 form factors, enabling more computing using minimal space, energy and cost. The Nytro 5000 SSD is also extremely scalable and space-optimised to reduce TCO. In addition, the Nytro 5000 NVMe SSD with the U.2 connector enables effortless serviceability and maintenance with no downtime requirements, and features hot-swap capability for easy addition, removal or replacement of SSDs.

Enhance Enterprise Reliability, Data Protection and Security

By leveraging Seagate's existing enterprise expertise and manufacturing excellence, Nytro 5000 SSD delivers the highest levels of data integrity, data security and endurance for critical business applications.

Nytro 5000 SSD includes features for end-to-end data protection, LDPC error correction and Seagate RAISE technology for solid reliability and endurance. Power-loss data protection helps maintain data integrity in the event of unexpected power interruptions. Seagate Secure™ Self-Encrypting Drive (SED) models[1] support the TCG protocol to help companies keep valuable data secure.

1 Self-Encrypting Drives (SED) are not available in all models or countries. May require TCG-compliant host or controller support.

NYTRO™ ENTERPRISE

Specifications	Endurance Optimised for Mixed Workloads (2.5 in.)		Capacity Optimised for Read-Intensive Workloads (2.5 in.)	
Capacity	1.6 TB	800GB	1.92 TB	960GB
Standard Model[1]	XP1600HE10002	XP800HE10002	XP1920LE10002	XP960LE10002
Seagate Secure™ SED Model[1,2]	XP1600HE10012	XP800HE10012	XP1920LE10012	XP960LE10012
Features				
Interface	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)
NAND Flash Type	3D cMLC	3D cMLC	3D cMLC	3D cMLC
Form Factor	2.5 in × 7 mm	2.5 in × 7 mm	2.5 in × 7 mm	2.5 in × 7 mm
Performance				
Sequential Read (MB/s) Sustained, 128 KB[3]	2,000	2,000	2,000	2,000
Sequential Write (MB/s) Sustained, 128 KB[3]	1,200	1,200	1,200	1,200
Random Read (IOPS) Sustained, 4 KB QD64[3]	245,000	245,000	245,000	245,000
Random Write (IOPS) Sustained, 4 KB QD64[3]	67,000	60,000	28,000	25,000
Random 70R/30W (IOPS) Sustained, 4KB QD64[3]	150,000	130,000	100,000	75,000
Endurance/Reliability				
Lifetime Endurance (Drive Writes per Day)	1.5	1.5	0.3	0.3
Non-recoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000
Limited Warranty (years)	5	5	5	5
Power Management				
+12 V Max Power (W)	12.5	12.5	12.5	12.5
Average Read/Write Power (W)	9	9	9	9
Physical				
Height (mm/in, max)	7 mm/0.275 in	7 mm/0.275 in	7 mm/0.275 in	7 mm/0.275 in
Height, Component Top (mm/in, max)	—	—	—	—
Height, Component Bottom (mm/in, max)	—	—	—	—
Width (mm/in)	69.85 mm/2.75 in	69.85 mm/2.75 in	69.85 mm/2.75 in	69.85 mm/2.75 in
Depth (mm/in)	100.35 mm/3.951 in	100.35 mm/3.951 in	100.35 mm/3.951 in	100.35 mm/3.951 in
Weight (lb/g)	90 g/0.198 lb	90 g/0.198 lb	90 g/0.198 lb	90 g/0.198 lb
Carton Unit Quantity	10	10	10	10
Cartons per Pallet / Cartons per Layer	40/5	40/5	40/5	40/5

1 Not all capacities and features may be available in all regions and countries.

2 Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

3 Performance data is based on testing under certain workload conditions and is subject to change. 400 GB and 480 GB capacities are limited to 32× 128 Gb die active.

NYTRO™ ENTERPRISE

Specifications	Endurance Optimised for Mixed Workloads (M.2 22110)		
Capacity	1.6 TB	800GB	400GB
Standard Model[1]	XP1600HE30002	XP800HE30002	XP400HE30002
Seagate Secure™ SED Model[1,2]	XP1600HE30012	XP800HE30012	XP400HE30012
Features			
Interface	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)
NAND Flash Type	3D cMLC	3D cMLC	3D cMLC
Form Factor	M.2 22110	M.2 22110	M.2 22110
Performance			
Sequential Read (MB/s) Sustained, 128 KB[3]	2,000	2,000	2,000
Sequential Write (MB/s) Sustained, 128 KB[3]	1,200	1,200	1,200
Random Read (IOPS) Sustained, 4 KB QD64[3]	245,000	245,000	240,000
Random Write (IOPS) Sustained, 4 KB QD64[3]	67,000	60,000	55,000
Random 70R/30W (IOPS) Sustained, 4KB QD64[3]	143,000	135,000	110,000
Endurance/Reliability			
Lifetime Endurance (Drive Writes per Day)	1.5	1.5	1.5
Non-recoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000
Limited Warranty (years)	5	5	5
Power Management			
+12 V Max Power (W)	8.25	8.25	8.25
Average Read/Write Power (W)	7	7	7
Physical			
Height (mm/in, max)	—	—	—
Height, Component Top (mm/in, max)	2.0 mm/0.079 in	2.0 mm/0.079 in	2.0 mm/0.079 in
Height, Component Bottom (mm/in, max)	1.5 mm/0.059 in	1.5 mm/0.05 9in, 1.5 mm/0.059 in	1.5 mm/0.059 in
Width (mm/in)	22 mm/0.866 in	22 mm/0.866 in	22 mm/0.866 in
Depth (mm/in)	110 mm/4.33 in	110 mm/4.33 in	110 mm/4.33 in
Weight (lb/g)	14 g/0.031 lb	14 g/0.031 lb	14 g/0.031 lb
Carton Unit Quantity	10	10	10
Cartons per Pallet / Cartons per Layer	56/8	56/8	56/8

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NYTRO™ ENTERPRISE

Specifications	Capacity Optimised for Read-Intensive Workloads (M.2 22110)		
Capacity	1.92 TB	960GB	480GB
Standard Model[1]	XP1920LE30002	XP960LE30002	XP480LE30002
Seagate Secure™ SED Model[1,2]	XP1920LE30012	XP960LE30012	XP480LE30012
Features			
Interface	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)
NAND Flash Type	3D cMLC	3D cMLC	3D cMLC
Form Factor	M.2 22110	M.2 22110	M.2 22110
Performance			
Sequential Read (MB/s) Sustained, 128 KB[3]	2,000	2,000	2,000
Sequential Write (MB/s) Sustained, 128 KB[3]	1,200	1,200	1,200
Random Read (IOPS) Sustained, 4 KB QD64[3]	245,000	245,000	240,000
Random Write (IOPS) Sustained, 4 KB QD64[3]	28,000	25,000	24,000
Random 70R/30W (IOPS) Sustained, 4KB QD64[3]	87,000	77,000	67,000
Endurance/Reliability			
Lifetime Endurance (Drive Writes per Day)	0.3	0.3	0.3
Non-recoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16
Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000
Limited Warranty (years)	5	5	5
Power Management			
+12 V Max Power (W)	8.25	8.25	8.25
Average Read/Write Power (W)	7	7	7
Physical			
Height (mm/in, max)	—	—	—
Height, Component Top (mm/in, max)	2.0 mm/0.079 in	2.0 mm/0.079 in	2.0 mm/0.079 in
Height, Component Bottom (mm/in, max)	1.5 mm/0.059 in	1.5 mm/0.059 in	1.5 mm/0.059 in
Width (mm/in)	22 mm/0.866 in	22 mm/0.866 in	22 mm/0.866 in
Depth (mm/in)	110 mm/4.33 in	110 mm/4.33 in	110 mm/4.33 in
Weight (lb/g)	14 g/0.031 lb	14 g/0.031 lb	14 g/0.031 lb
Carton Unit Quantity	10	10	10
Cartons per Pallet / Cartons per Layer	56/8	56/8	56/8

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