DATA SHEET

Lightspeed. Solid. Impressive.

Nytro 5000 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 centers, 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 1.92TB in 2.5-inch and M.2 form factors
- Host-selectable power optimization
- Multiple namespace support for greater deployment flexibility

Best-Fit Applications

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

Overcome Data Bottlenecks and Improve QoS

Nytro 5000 SSD is highly optimized 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 Centers

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-optimized to reduce TCO. In addition, the Nytro 5000 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 Optimized for Mixed Workloads (2.5 in.)		Capacity Optimized for Read-Intensive Workloads (2.5 in.)	
Capacity	1.6TB	800GB	1.92TB	960GB
Standard Model[1]	XP1600HE10002	XP800HE10002	XP1920LE10002	XP960LE10002
Seagate Secure™ SED Model[1,2]	XP1600HE10012	XP800HE10012	XP1920LE10012	XP960LE10012
Features				
Interface	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a
NAND Flash Type	3D cMLC	3D cMLC	3D cMLC	3D cMLC
Form Factor	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
Performance				
Sequential Read (MB/s) Sustained, 128KB[3]	2000	2000	2000	2000
Sequential Write (MB/s) Sustained, 128KB[3]	1200	1200	1200	1200
Random Read (IOPS) Sustained, 4KB QD64[3]	245,000	245,000	245,000	245,000
Random Write (IOPS) Sustained, 4KB 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
Total Bytes Written (TB)	4,350	2,150	1,050	525
Nonrecoverable 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				
+12V Max Power (W)	12.5	12.5	12.5	12.5
+3.3V Max Power (W)	—	—	—	—
Average Read/Write Power (W)	9	9	9	9
Physical				
Height (mm/in, max)	7.0mm/0.275in	7.0mm/0.275in	7.0mm/0.275in	7.0mm/0.275in
Height, Component Top (mm/in, max)	—	—	—	—
Height, Component Bottom (mm/in, max)	—	—	—	—
Width (mm/in)	69.85mm/2.75in	69.85mm/2.75in	69.85mm/2.75in	69.85mm/2.75in
Depth (mm/in)	100.35mm/3.951in	100.35mm/3.951in	100.35mm/3.951in	100.35mm/3.951in
Weight (g/lb)	90g/0.198lb	90g/0.198lb	90g/0.198lb	90g/0.198lb
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. 400GB and 480GB capacities are limited to 32× 128Gb die active.

NYTRO™ ENTERPRISE



Specifications	Endurance Optimized for Mixed Workloads (M.2 22110)		
Capacity	1.6TB	800GB	400GB
Standard Model[1]	XP1600HE30002	XP800HE30002	XP400HE30002
Seagate Secure™ SED Model[1,2]	XP1600HE30012	XP800HE30012	XP400HE30012
Features			
Interface	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a
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, 128KB[3]	2000	2000	2000
Sequential Write (MB/s) Sustained, 128KB[3]	1200	1200	1200
Random Read (IOPS) Sustained, 4KB QD64[3]	245,000	245,000	240,000
Random Write (IOPS) Sustained, 4KB 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
Total Bytes Written (TB)	4,350	2,150	1,050
Nonrecoverable 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			
+12V Max Power (W)	—	—	—
+3.3V 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)	2.0mm/0.079in	2.0mm/0.079in	2.0mm/0.079in
Height, Component Bottom (mm/in, max)	1.5mm/0.059in	1.5mm/0.059in	1.5mm/0.059in
Width (mm/in)	22.0mm/0.866in	22.0mm/0.866in	22.0mm/0.866in
Depth (mm/in)	110.0mm/4.33in	110.0mm/4.33in	110.0mm/4.33in
Weight (g/lb)	14g/0.031lb	14g/0.031lb	14g/0.031lb
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 Optimized for Read-Intensive Workloads (M.2 22110)		
Capacity	1.92TB	960GB	480GB
Standard Model[1]	XP1920LE30002	XP960LE30002	XP480LE30002
Seagate Secure™ SED Model[1,2]	XP1920LE30012	XP960LE30012	XP480LE30012
Features			
Interface	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a	PCIe Gen3 ×4, NVMe 1.2a
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, 128KB[3]	2000	2000	2000
Sequential Write (MB/s) Sustained, 128KB[3]	1200	1200	1200
Random Read (IOPS) Sustained, 4KB QD64[3]	245,000	245,000	240,000
Random Write (IOPS) Sustained, 4KB 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
Total Bytes Written (TB)	1,050	525	250
Nonrecoverable 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			
+12V Max Power (W)	—	—	—
+3.3V 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)	2.0mm/0.079in	2.0mm/0.079in	2.0mm/0.079in
Height, Component Bottom (mm/in, max)	1.5mm/0.059in	1.5mm/0.059in	1.5mm/0.059in
Width (mm/in)	22.0mm/0.866in	22.0mm/0.866in	22.0mm/0.866in
Depth (mm/in)	110.0mm/4.33in	110.0mm/4.33in	110.0mm/4.33in
Weight (g/lb)	14g/0.031lb	14g/0.031lb	14g/0.031lb
Carton Unit Quantity	10	10	10
Cartons per Pallet/Cartons per Layer	56/8	56/8	56/8

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