Nytro® 5000 NVMe SSD

Data Sheet

Key Features and Benefits

- PCIe Gen3 ×4 interface with NVMe protocol for reduced latency, consistent response time and high throughput
- Best-in-class performance per Watt of up to 35,000 IOPS/W enables more computing with less energy consumption
- Industry-leading storage density of up to 1.92TB in the M.2 22110 form factor
- Host-selectable performance optimization to balance performance and power
- Optimized for read-intensive and mixed workloads
- Multiple namespace support and configurable overprovisioning for greater depoloyment flexibility
- Power loss data protection circuit to prevent loss of data in the event of unexpected power interruptions
- End-to-end data protection, LDPC error correction and Seagate RAISE technology for a high level of data integrity and reliability

The Seagate Nytro 5000 family of NVMe solid state drives (SSD) represents the next generation of enterprise SSDs. Engineered for low power, high performance and increased storage density in data centers, Nytro 5000 SSDs eliminate performance bottlenecks and significantly improve quality of service (QoS). These enterprise storage solutions are designed for optimal scalability, reducing total cost of ownership (TCO) and maintaining the highest levels of reliability.

Overcome Data Bottlenecks and Improve QoS

Incorporating the PCIe Gen3 ×4 interface with the NVMe protocol, Nytro 5000 SSDs feature five times the bandwidth of SATA SSDs, removing data bottlenecks by delivering blistering throughput and IOPS. Nytro 5000 SSDs also feature 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 SSDs are offered in an ultra-small M.2 form factor, enabling more computing while using minimal space, energy and cost. Delivering the best performance in the smallest power envelope, Nytro 5000 SSDs are also extremely scalable and space-optimized to reduce TCO.

Enhance Enterprise Reliability, Data Protection and Security

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

Nytro 5000 SSDs include features for end-to-end data protection, LDPC error correction and Seagate RAISE™ technology for solid reliability and endurance. With power-loss data protection, the Nytro 5000 SSDs have 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.

SEAGATE

Nytro® 5000 NVMe SSD

Specifications	Endurance Optimized			Capacity Optimized		
	1600GB[1,2]	800GB[1,2]	400GB[1,2]	1920GB[1,2]	960GB[1,2]	480GB[1,2]
Target Application	Mixed Workloads			Read-Intensive Workloads		
Standard Model	XP1600HE30002	XP800HE30002	XP400HE30002	XP1920LE30002	XP960LE30002	XP480LE30002
Seagate Secure™ SED Model	XP1600HE30012[3]	XP800HE30012[3]	XP400HE30012[3]	XP1920LE30012[3]	XP960LE30012[3]	XP480LE30012[3]
Interface	PCIe Gen3 x4 NVMe 1.2a	PCIe Gen3 x4 NVMe 1.2a	PCIe Gen3 x4 NVMe 1.2a	PCIe Gen3 x4 NVMe 1.2a	PCIe Gen3 x4 NVMe 1.2a	PCIe Gen3 x4 NVMe 1.2a
NAND Flash Type	3D cMLC	3D cMLC	3D cMLC	3D cMLC	3D cMLC	3D cMLC
Sector Size Support[4]	512 / 4K	512 / 4K	512 / 4K	512 / 4K	512 / 4K	512 / 4K
Form Factor	M.2 22110	M.2 22110	M.2 22110	M.2 22110	M.2 22110	M.2 22110
Performance						
Sequential Read (MB/s) Sustained, 128KB[5]	2000	2000	2000	2000	2000	2000
Sequential Write (MB/s) Sustained, 128KB[5]	1200	1200	1200	1200	1200	1200
Random Read (IOPS) Sustained, 4KB QD64[5]	245,000	245,000	240,000	245,000	245,000	240,000
Random Write (IOPS) Sustained, 4KB QD64[5]	67,000	60,000	55,000	28,000	25,000	24,000
Random 70/30 R/W (IOPS) Sustained,4KB QD64[5]	143,000	135,000	110,000	87,000	77,000	67,000
Endurance/Reliability						
Lifetime Endurance (Drive Writes per Day)	1.5	1.5	1.5	0.3	0.3	0.3
Nonrecoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Mean Time Between Failures (MTBF, hours)	2M	2M	2M	2M	2M	2M
Power Management						
+3.3V Max Power (W)	8.25	8.25	8.25	8.25	8.25	8.25
Average Read/Write Power (W)	7.0	7.0	7.0	7.0	7.0	7.0
Environmental						
Temperature, Operating (°C)	0 to 70	0 to 70	0 to 70	0 to 70	0 to 70	0 to 70
Temperature, Nonoperating (°C)[6]	–40 to 85	–40 to 85	–40 to 85	–40 to 85	–40 to 85	–40 to 85
Temperature Change Rate/Hr, Max (°C)	30	30	30	30	30	30
Shock, 0.5ms (Gs)	1500	1500	1500	1500	1500	1500
Vibration, 5Hz to 800Hz (Grms)	3.0	3.0	3.0	3.0	3.0	3.0
Physical						
Component Max Height - Top (mm)	2.0	2.0	2.0	2.0	2.0	2.0
Component Max Height - Bottom (mm)	1.5	1.5	1.5	1.5	1.5	1.5
Width (mm)	22	22	22	22	22	22
Length (mm)	110.0	110.0	110.0	110.0	110.0	110.0
Weight (g)	14	14	14	14	14	14
Carton Unit Quantity	10	10	10	10	10	10
Cartons per Pallet	56	56	56	56	56	56
Cartons per Layer	8	8	8	8	8	8
Warranty						
Limited Warranty (years)	5	5	5	5	5	5

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

2 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to drive capacity.

3 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.

4 Drives are shipped with 512B sector size set as default. Drives can be re-formatted to 4K sectors.

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

6 Limited to shelf life while product is still in the shipping package.

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Seagate Secure

Seagate 5-Year Warranty

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