



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 hotswap 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) models¹ 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.





Capacity	Specifications	Endurance Optimised for Mixed Workloads (2.5 in.)		Capacity Optimised for Read-Intensive Workloads (2.5 in.)	
Standard Model XP1600HE10002 XP800HE10002 XP1820LE10002 XP980LE10002 XP980LE10002 XP980LE10002 XP980LE10002 XP980LE10012	'				• • •
Seagards Secure SED Mode 2					
PCIe Ger3 x4 (NVMe)		XP1600HF10012	XP800HF10012	XP1920I F10012	XP960LF10012
PCIe Gen3 x4 (NVMe)	•	74 100011210012	74 000.12.100.12	74 10202210012	74 0002210012
NAND Flash Type 30 cMLC 30 cML		PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)	PCIe Gen3 x4 (NVMe)
Performance	NAND Flash Type		` '	` ,	, ,
Sequential Read (MBs) Sustained, 128 KB 2,000 2,000 2,000 2,000 1,200 245,000	Form Factor	2.5 in × 7 mm	2.5 in × 7 mm	2.5 in × 7 mm	2.5 in × 7 mm
Sequential Write (MBs) Sustained, 4 KB QD64 ³ 1,200 1,200 1,200 1,200 245,000 245	Performance				
Random Read (IOPS) Sustained, 4 KB QD643 245,000 245,000 245,000 245,000 25,000 25,000 25,000 26,000	Sequential Read (MB/s) Sustained, 128 KB ³	2,000	2,000	2,000	2,000
Random Write (IOPS) Sustained, 4 KB OD64 ³ 67,000 60,000 28,000 25,000 Random 70R/30W (IOPS) Sustained, 4 KB OD64 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 0.3 Non-recoverable Read Errors per Bits Read 1 per 10E16 1 per	Sequential Write (MB/s) Sustained, 128 KB ³	1,200	1,200	1,200	1,200
Random 70R/30W (IOPS) Sustained, 4KB QD64 ³ 150,000 130,000 100,000 75,000 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	Random Read (IOPS) Sustained, 4 KB QD64 ³	245,000	245,000	245,000	245,000
Carbon Unit Quantity Carbon Carbon Unit Quantity Carbon Unit Car	Random Write (IOPS) Sustained, 4 KB QD64 ³	67,000	60,000	28,000	25,000
Lifetime Endurance (Drive Writes per Day) 1.5 1.5 0.3 0.3 0.3 Non-recoverable Read Errors per Bits Read 1 per 10E16 1 per	Random 70R/30W (IOPS) Sustained, 4KB QD64 ³	150,000	130,000	100,000	75,000
Non-recoverable Read Errors per Bits Read 1 per 10E16	Endurance/Reliability	·	·		
Mean Time Between Failures (MTBF, hours) 2,000,000 2,000,00 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000	Lifetime Endurance (Drive Writes per Day)	1.5	1.5	0.3	0.3
Same Name	Non-recoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16	1 per 10E16
Power Management +12 V Max Power (W) 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	Mean Time Between Failures (MTBF, hours)	2,000,000	2,000,000	2,000,000	2,000,000
+12 V Max Power (W) 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	Limited Warranty (years)	5	5	5	5
Average Read/Write Power (W) 9 9 9 9 9 Physical Height (mm/in, max) 7 mm/0.275 in Height, Component Top (mm/in, max) — — — — — — — — — — — — — — — — — — —	Power Management				
Physical Height (mm/in, max) 7 mm/0.275 in — <	+12 V Max Power (W)	12.5	12.5	12.5	12.5
Height (mm/in, max) 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 Depth (mm/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	Average Read/Write Power (W)	9	9	9	9
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	Physical				
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	Height (mm/in, max)	7 mm/0.275 in	7 mm/0.275 in	7 mm/0.275 in	7 mm/0.275 in
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	Height, Component Top (mm/in, max)	_	_	_	_
Depth (mm/in) 100.35 mm/3.951 in 100.35 mm/3.	Height, Component Bottom (mm/in, max)	_	_	_	_
Weight (lb/g) 90 g/0.198 lb 10 <td>Width (mm/in)</td> <td>69.85 mm/2.75 in</td> <td>69.85 mm/2.75 in</td> <td>69.85 mm/2.75 in</td> <td>69.85 mm/2.75 in</td>	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
Carton Unit Quantity 10 10 10 10	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
<u> </u>	Weight (lb/g)	90 g/0.198 lb	90 g/0.198 lb	90 g/0.198 lb	90 g/0.198 lb
Cartons per Pallet / Cartons per Layer 40/5 40/5 40/5	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 32x 128 Gb die active.





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 ^S	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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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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