



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

- PCle 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) 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.





| 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 |
| 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.





| Specifications | | Endurance Optimized for Mixed Workloads (M.2 22110) | |
|--|-------------------------|---|-------------------------|
| Capacity | 1.6TB | 800GB | 400GB |
| Standard Model | XP1600HE30002 | XP800HE30002 | XP400HE30002 |
| Seagate Secure [™] SED Model ^{1,2} | XP1600HE30012 | XP800HE30012 | XP400HE30012 |
| Features | XI 1000/120012 | XI 00011E00012 | XI 40011E00012 |
| 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 |
| 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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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.





| Specifications | | Capacity Optimized for Read-Intensive Workloads (M.2 221 | 10) |
|--|-------------------------|--|-------------------------|
| 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 |
| 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 |

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 32x 128Gb die active.

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AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000 ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888 EUROPE, MIDDLE EAST AND AFRICA Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

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