swissbit®

Made in Germany

Peak Performance. Low Power. Edge-Ready. Swissbit N7000 Series PCIe Gen4

Industrial PCIe Gen4 M.2 SSDs for demanding embedded systems with sustained throughput and reliable operation

Key Benefits

- **High performance in harsh thermal conditions:** Ideal for fanless and enclosed systems thanks to excellent performance at high temperatures and low power consumption.
- **Reliable operation over the entire lifetime:** Robust design supports data reliability and data integrity under changing ambient conditions.
- **Industrial-grade NAND technology:** Built with latest-generation, true industrial 3D TLC NAND technology for long-term availability.
- **Designed for demanding applications:** Engineered for use cases requiring maximum reliability and data integrity in harsh environmental conditions.

By combining performance, endurance, and high storage capacity in a compact PCIe M.2 module, Swissbit expands its storage portfolio for the most demanding applications with the N7000 series.

Customers in the industrial, commercial, NetCom, and Edge AI sectors benefit from exceptional performance, low power consumption, and excellent thermal behavior.

As a result, the N7000 series is an excellent choice for fanless and enclosed embedded systems. For maximum reliability in mission-critical applications, the series supports NVMe power-loss notification.

The PCIe SSDs are available in M.2 2242 and M.2 2280 form factors with capacities ranging from 240 GB to 3.84 TB.

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Qualified for challenging environments, the N7000 Gen4 PCIe SSD family enables reliable and secure data processing across a wide range of applications, helping maintain system integrity and performance at peak levels.

The N7000 series remains fully functional at temperatures from -40°C to +85°C. Thanks to optimized temperature-versus-performance management, the series delivers high sustained performance, making it ideal for applications that require reliable data throughput.

Key Applications

- Networking and communication applications (routers, switches)
- Edge AI and servers
- Industrial / embedded applications
- Data logging
- Boot OS

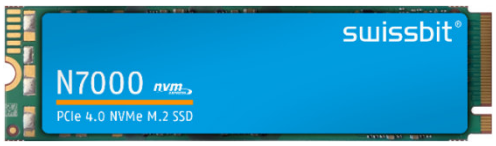
The storage capacity for the N7000 series with 3D TLC NAND ranges from 240 GB to 3.84 TB.

For even greater endurance requirements, the pseudo-SLC version N7600 enables more than 10× higher write workload and is available in capacities from 80 GB to 1.28 TB.

The DRAM-less controller architecture with HMB supports high performance requirements and includes security features such as AES-256 encryption, Crypto Erase, and TCG Opal 2.0.

The module features a robust 30 µm gold-plated connector (IPC-6012B Class 2 compliant).

For maximum reliability in mission-critical applications, N7001 and N7601 are available with hardware fast erase and write protect options, as well as conformal coating for harsh environments.



	N7000 / N7600 / N7001 / N7601
Type	PCIe / NVMe
Standard & Interface	PCIe 4.0 / NVMe 1.4
Form Factor	M.2 2280, 2242
Flash Type	3D NAND TLC / pSLC
Density Range	TLC: 240 GB – 3,840 GB pSLC: 80 GB – 1,280 GB
Data Retention	10 years @ life begin, 1 year @ life end
Performance	Sequential Read – Write Sequential Read/ Write up to 7 GBs Random 4KB Read/ Write up to 600k / 900k IOPS
Power consumption	Active <4W
Operating Temperature	Commercial: 0 to 70°C Industrial: -40 to 85°C

About Swissbit

Swissbit AG is the leading European technology company for data storage and security solutions. Our vision is to build a connected world where data and identities are trusted, ensuring digital sovereignty. Founded in 2001, Swissbit operates offices in Switzerland (HQ), Germany, the USA, Japan, and Taiwan, and maintains its own semiconductor production facility in Berlin, Germany.

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