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Product Fact Sheet

Industrial M.2 PCIe SSD

N3202 M.2 Series PCIe 4.0, 3D TLC

Industrial Temperature Grade

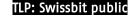
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Product Summary

- Capacities: 240 GBytes, 480 GBytes, 960 GBytes, 1920 GBytes
- Form Factor: PCI Express M.2 2280 (80 mm x 22 mm x 3.8 mm)
- Compliance¹: PCI Express (PCIe) Base Specification Revision 4.0
- Interface: Gen4 x 4 Lanes
 - Drive operates in x1 mode in x1 M.2 PCIe slots
 - Drive operates in x2 mode in x2 M.2 PCIe slots
 - Drive operates in x4 mode in x4 M.2 PCIe slots
- Command Sets: Supports NVMe 1.4
- Target Performance:
 - Read Performance: Sequential Read up to 3,850 MBytes/s, Random Read 4K up to 461,300 IOPS
 - Write Performance: Sequential Write up to 3,360 MBytes/s, Random Write 4K up to 380,000 IOPS
 - Operating Temperature Range²:
 - Commercial: o °C to 70 °C
- Storage Temperature Range: -40 °C to 85 °C
- Power:
 - Power States PSo, PS1, PS2, PS3 and PS4
 - Thermal Throttling supported
- Data Retention³: 3 Years @ Life Begin; 4 Months @ Life End, @40°C
- Shock/Vibration: 1,500 g / 50 g
- High-Performance Processor with Integrated, Parallel Flash Interface Engines:
 - Triple-Level Cell (TLC) 3D NAND Flash
 - DDR4 DRAM based Controller architecture
 - 240 bit LDPC correction per 2 KByte
- High Reliability:
 - Mean Time Between Failure (MTBF): > 3,000,000 hours
 - \circ Data Reliability: < 1 non-recoverable error per 10¹⁶ bits read



¹ To check the compatibility of the customer system and the storage device is part of the customer's responsibility. Swissbit can provide guidance and support on request.

² Adequate airflow is required to ensure the temperature, as reported in the S.M.A.R.T. data, does not exceed 90°C (commercial temperature drive).

³ NAND Flash suppliers refer to JEDEC JESD47 and JESD22 for Data Retention testing. Based on the information provided by the NAND Flash suppliers, Data Retention is targeted as shown

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Product Features

- Diagnostic features
- Life end read only mode
- RAID engine
- Drive self-test
- Data Care Management
 - Active: Adaptive Read Refresh
 - Passive: Background Media Scan
- Active State Power Management (ASPM) Support
- In-Field Firmware Update⁴
- Adaptive Thermal control
- DRAM-Buffer
- Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T., Telemetry)
- SMBus⁵ (NVMe Management Interface Basic Management Command, NVMe-MI v1.2)
- 30 μinch (0.8 μm) Gold-Plated Connector (IPC-6012C Class 2 Compliant)
- End-to-End (E2E) Data Protection
- powersafe™ Functionality (Power Loss Protection Level 3)
- Controlled "Locked" BOM
- RoHS / REACH Compliant
- Swissbit Device Manager Tool (SBDM)

Security features

- AES256 encryption
- TCG 0PAL 2.0
- Secure Boot (on request)
- Crypto erase
- IEEE 1667



Why Swissbit?

Swissbit is focused on the design, development, manufacture, and support of leading edge memory and storage solutions for the worldwide OEM/ODM marketplace. As a global supplier, Swissbit recognizes and addresses the higher level of application requirements of today's industrial, Netcom, and automotive customers by providing best-in-class products and services, with uncompromised attention to driving overall value and quality.

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⁴ The support of In-Field FW update capabilities on host systems is recommended.

⁵ SMBus commands are only processed in operational power states.