

# swissbit®

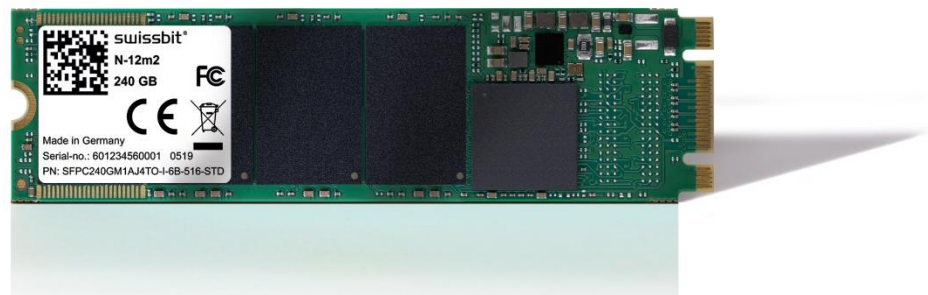
PRELIMINARY  
Product Fact Sheet

## Industrial M.2 PCIe SSD (2280)

**N-12m2 Series**  
PCIe 3.1

Commercial and Industrial  
Temperature Grade

Date: February 2<sup>nd</sup>, 2019  
Revision: 0.90



# Product Fact Sheet

## N-12m2 Series



### Product Summary

- **Capacities:** 30 GBytes, 60 GBytes, 120 GBytes, 240 GBytes
- **Form Factor:** PCI Express® M.2 2280 (80 mm x 22 mm x 3.6 mm)
- **Compliance:** PCI Express Specification Revision 3.1
- **Interface:** Gen3 x 2 Lanes
  - Drive operates in x1 mode in x1 M.2 PCIe slots
  - Drive operates in x2 mode in x2 or x4 M.2 PCIe slots
- **Command Sets:** Supports NVMe 1.2
- **Performance:**
  - Read Performance: Sequential Read up to 1,620 MBytes/s, Random Read IOPs up to 126,400
  - Write Performance: Sequential Write up to 880 MBytes/s, Random Write IOPs up to 168,100
- **Operating Temperature Range\*:**
  - Commercial: 0 °C to 70 °C
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 3.3 V ± 5%
- **Low Power Consumption**
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) Max Capacity†:** Client > TBD; Enterprise > TBD
- **Shock/Vibration:** 1,500 *g* / 50 *g*
- **LDPC ECC** with up to 120 bit correction per 1 KByte page
- **Mean Time Between Failure:** > 2,000,000 hours
- **Data Reliability:** < 1 non-recoverable error per 10<sup>16</sup> bits read

### Product Features

- 3D NAND Flash Technology
- Dynamic and Static Wear Leveling
- Active and Passive Data Care Management
- Lifetime Enhancements: Dynamic Bad Block Remapping and Write Amplification Reduction
- On-Board Power Fail Protection
- Active State Power Management (ASPM) Support
- NVMe Security Command Support
- In-Field Firmware Update
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- 30 µinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)
- AES256 Encryption
- Swissbit Life Time Monitoring (SBLTM) Tool and SDK for SBLTM (on request)

### 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.

\* Adequate airflow is required to ensure the drive temperature, as reported in the S.M.A.R.T. data, does not exceed the specified maximum operating temperature.

† According to JEDEC (JESD471), the time to write the full TBW is a minimum of 18 months. Higher average daily data volume reduces the specified TBW. The values listed are estimates and are subject to change without notice.