swissbit®

Product Fact Sheet

Industrial 2.5" SATA SSD

X-600 Series

SATA III - 6.0 Gbit/s

made in germany

X-600 Series – Industrial 2.5" SATA Solid State Drive

Product Summary

- **Capacities:** 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes, 128 GBytes, 256 GBytes
- **Form Factor:** 2.5" SATA Solid State Drive (70 mm x 100 mm x 7 mm)
- **Compliance:** SATA Rev 3.1 – 6 Gbit/s (3 Gbit/s and 1.5 Gbit/s backward compatible)
- **Command Sets:** Supports ATA/ATAPI-8 and ACS-2
- **Performance:**
  - Read Performance: Sequential Read up to 520 MBytes/s, Random Read IOPs up to 79,000
  - Write Performance: Sequential Write up to 425 MBytes/s, Random Write IOPs up to 76,000
- **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:** 5 V ± 10% (3.3 V available upon request)
- **Power (Max Capacity):** Read (Active): 2.45 W; Write (Active): 3.8 W; Idle: 550 mW; Slumber: 75 mW
- **Data Retention:** 10 Years @ Life Begin; 1 Year @ Life End
- **Endurance in TeraBytes Written (TBW) Max Capacity†:** Client > 8,340; Embedded > 4,995; Enterprise > 2,235
- **Shock/Vibration:** 1,500 *g* /50 *g* (MIL-STD810)
- **Hardware BCH Code ECC:** up to 66 bit correction per 1 KByte page
- **Mean Time Between Failure:** > 2,000,000 hours
- **Data Reliability:** < 1 non-recoverable error per 10^{16} bits read

Product Features

- Dynamic and Static Wear Leveling
- Data Care Management
  - Active: Adaptive Read Refresh
  - Passive: Background Media Scan
- Lifetime Enhancements
  - Dynamic Bad Block Remapping
  - Write Amplification Reduction
- On-Board Power Fail Protection
- AHCI, TRIM, and NCQ Support
- ATA Security Feature Set Support
- In-Field Firmware Update
- 30 µinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- AES256 Encryption (on request)
- 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 addressees 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 (JESD47I), the time to write the full TBW is 18 months. Higher average daily data volume reduces the specified TBW.