

swissbit®

Product fact sheet

**Industrial SATA SSD 2.5"**

**X-500 Series**

SATA II, high performance, high reliability  
SLC NAND Flash



# X-500 SERIES – INDUSTRIAL SATA SOLID STATE DRIVE 2.5"

## 16GB TO 512GB BASED ON SLC NAND FLASH

### 1 Feature summary

- Form factor:
  - 2.5-inch SATA Solid State Drive (SSD)
  - 100.1mm x 69.85mm x 9.2mm
  - 7+15 pin (SATA+power) locking/latching SATA connector
- Interface:
  - SATA Rev 2.6 – 3Gbit/s (1.5Gbit/s compatible)
- Feature connector for
  - Secure erase and write protect input
  - Device activity and secure erase output (LED)
  - Ground pin
- Optional various secure erase/sanitize/purge methods (HW and SW triggered, simple erase also in standard SSD)
- Highly-integrated memory controller
  - SLC NAND Flash
  - Hardware BCH-code ECC (up to 40 Bit correction per 2 sectors)
  - Fix drive configuration
- Low-power CMOS technology
- 5.0V ± 10% power supply
- Low Power, less than 1 W (idle) / 3.5 W (operation) / 0.7 W slumber average current
- No mechanical noise
- Wear Leveling: active wear leveling of static and dynamic data  
The wear leveling assures that dynamic data as well as static data is balanced evenly across the memory. With that the maximum write endurance of the device is guaranteed.
- Mechanical robustness (MIL-STD810)
- High reliability
  - Best available SLC NAND Flash technology
  - Data retention 10 years
  - StaticDataRefresh and EarlyRetirement Technologies for data refresh
  - MTBF ≥ 2,000,000 hours
  - Number of connector insertions/removals: 500 on SATA back plane, 50 on SATA cable
- High performance
  - Up to 300MB/s burst transfer rate in SATA II – 3.0Gb/sec
  - Sustained Read / Write Performance: up to 240MB/s / 200MB/s
  - 4KB Read / Write IOPS: up to 14500 / 7000
  - Access time <0.2ms
  - TRIM and NCQ support
- Available densities
  - 16GB up to 512GB (SLC)
- S.M.A.R.T. with extended information
- HPA, security feature set, 48bit feature set
- Internal temperature sensor (current, minimum, maximum)
- Operation systems: Microsoft Windows8, 7, Vista, XP (all 32/64bit), Linux, Apple MacOS X, Embedded versions, RTOS
- Firmware update possible
- 2 Operating Temperature ranges
  - Commercial Temperature range                    0 ... +70°C
  - Industrial Temperature range                        -40 ... +85°C
- Life Cycle Management
- Controlled BOM
- RoHS, China-RoHS, REACH compatible, WEEE, CE, FCC compliant

