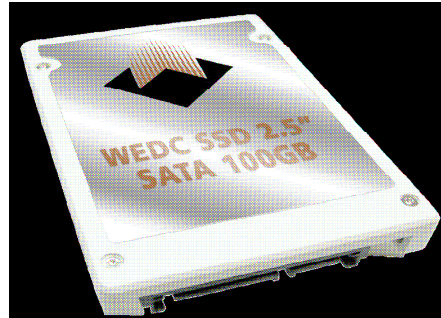


## GUARDIAN™ SATA SLC SOLID STATE DRIVE

**WEDC's new GUARDIAN™ is the first solid state disk drive on the market designed specifically to provide outstanding reliability, performance and security for defense applications in rugged environments.**



### DESCRIPTION

The **GUARDIAN** SSD realizes solid state technology's true potential and provides security features that meet the stringent requirements of sensitive military applications. The **GUARDIAN** incorporates high reliability SLC grade NAND flash in an industry standard 2.5" SATA form factor, available with up to 100GByte capacity. This extremely resilient storage solution is built to mitigate disruptions or data corruption caused by premature flash cell failures, extreme temperatures, shock or vibration. The **GUARDIAN** SSD raises the bar for storage reliability, durability and security in all types of operating environments. WEDC's proprietary design provides unparalleled stability and endurance by focusing processing power on error correction, effective wear leveling, and identifying and retiring weak flash cells before data loss occurs. Error correction logic built into WEDC's proprietary on-board **Armor™** management processor protects data from errors along the entire circuitry path — from the host to the flash media.

The **GUARDIAN's** reliability, coupled with its self-monitoring technology, enables the user to anticipate product end-of-life scenarios and respond accordingly with preventive maintenance prior to the occurrence of field failures. This failure prevention methodology of safeguarding data from catastrophic failures in critical applications provides a much needed layer of protection. Keeping sensitive data from getting in the wrong hands is also a big concern and is accomplished with features such as AES encryption, anti-tamper protection techniques, and government sanitization protocols, as well as WEDC's **SnapPurge™** technology that destroys the data in less than 100ms.

The **Armor** management processor provides the **GUARDIAN** with these feature-rich capabilities and the flexibility required to serve the many operating requirements in today's defense and aerospace applications. By having control and ownership of the **Armor** management processor, WEDC eliminates any dependence on a third party manufacturers' controller, thus protecting our customers from those all too often costly changes and/or end-of-life problems. By developing a robust solution that does not depend on a DRAM cache, problems such as data loss or corruption during power loss events and issues with special batteries or capacitor back-up circuits that degrade over time, are avoided.

The WEDC **GUARDIAN** is ideal for mission critical defense applications, including:

- Surveillance
- UAVs
- Data recorders
- Data acquisition
- Radar systems
- Digital map storage
- Avionics
- Net-centric communications

All manufacturing for the **GUARDIAN** is done in the U.S. in our DOD trusted source facility. WEDC has a long history as an industry-leading manufacturer of innovative, high-reliability memory solutions for the defense market.

## **PRIMARY FEATURES**

- SATA at 1.5 or 3.0 GBytes/s
- 50 and 100GB densities
- 100 MB/s sustained sequential read and writes
- MAX Power: less than 5W (5V +/- 10%)
- Operating temperature: -40° C to +85° C

## **VALUE FEATURES**

- Form factor: 2.5" (100.2 × 69.85 × 9.5 mm)
- Interface: SATA at 1.5 Gbits/s or 3 Gbits/s
- Capacity: 50 GBytes or 100 GBytes
- Flash technology: 8 Gbit SLC
- Performance
  - Sustained sequential reads: 100 MBytes/s
  - Sustained sequential writes: 100 MBytes/s
  - Worst-case read and write latency: 20 ms
  - Reset-to-ready time: 2s
- Reliability
  - Industry leading ECC protection
  - Uncorrectable bit error rate: better than 1 sector per 10<sup>17</sup> bits read
  - Mean time between failures: 2,000,000 hours
  - Write endurance: 3 petabytes for 100 GByte drive
  - Power-down protection
  - Component staking and underfill
  - 100% dynamic factory burn-in
  - Both read and write wear leveling
  - SMART attributes (self-monitoring, analysis, and reporting technology)
  - Industry-leading built-in self-test utilities
- Mechanical Reliability
  - Operating shock: 1500 G, 0.5 ms, 1/2 sine, 1 shock per axis and 60 G, 11 ms, 1/2 sine, 2 shocks per axis
  - Non-operating shock: 1500 G, 0.5 ms, 1/2 sine, 1 shock per axis
  - Vibration: 18 grms, Mil-STD-810F, method 514.5C-8, 15-2000 Hz, 3 axes (1 hr each)
  - Enhanced mechanical construction

- Power loss protection and operational stability during power interruptions
  - No super caps or batteries that degrade over time and temperature.
- Optimized Disk Life
  - SLC Grade NAND Flash - 10 times greater write endurance over MLC flash
  - Static and dynamic wear leveling
  - Managed write amplification
- WEDC Drive Management Processor
  - Control over the host interface interaction
  - No EOL of forced firmware revisions
- Security
  - AES encryption with a 256-bit key
  - Anti-tamper features
  - **SnapPurge™** destroys data in less than 100 ms
  - Fast clear in less than 10 seconds
  - BIOS password support
  - Compliant sanitization protocols
  - US-made with full BOM and assembly control
- Environmental
  - Operating temperature: -40° C to +85° C
  - Storage temperature: -55° C to +105° C
  - Humidity: 5%-95%, non-condensing
  - Altitude: 80,000 feet
- Weight: 120 g
- Power: < 5 W (5V ± 10%)
- Commands: ATA-7 plus some ATA-8 commands

## **ADDITIONAL OPTIONS**

Conformal coat, 168-hour burn in, encapsulation, OEM customization, Sn63 solder (RoHS5), extended temperature range  
Shock tolerant interface connectors

Wir freuen uns über Ihre Anfragen unter [info@ineltek.com](mailto:info@ineltek.com)

Oder wenden Sie sich an ein Ineltekbüro in Ihrer Nähe, zu finden unter: [www.ineltek.com](http://www.ineltek.com)