



# SATA 2.5" ArmourDrive™

89 Series

Product Brief

## Product Description

The SATA 2.5" ArmourDrive™ family consists of high-reliability, industrial solid state drives (SSDs) in a wide selection of capacities. To better address customer needs, the 89 Series is available in commercial and industrial temperature ranges, and offers both DRAM and DRAM-less SSDs. Operating at extreme temperatures, and tested for shock and vibration, SATA 2.5" ArmourDrive is ideal for applications requiring removable data storage able to withstand the most demanding environments.

The 89 Series implements advanced NAND flash management technology to preserve data integrity and extend SSD lifespan. Built in the standard 2.5" form factor and backed by Greenliant's technical support, SATA 2.5" ArmourDrive gives industrial, computing, security, video and networking customers added flexibility when selecting reliable, hot-swappable solid state storage for embedded systems.



## Key Features

### 2.5" Form Factor SATA SSD

- 100mm x 69.85mm x 7.00mm
- SATA 6Gb/s, 3Gb/s and 1.5Gb/s
- Compliant with SATA Revision 3.2
- Supports 48-bit address feature set

### High Performance

- Sequential Read / Write performance up to 550MB/s / 530MB/s
- Native Command Queuing up to 32 commands
- DRAM for better sustained performance (select models)

### Data Security

- Secure Erase for quick data wipe/factory reset
- AES-256 / TCG OPAL hardware encryption (select models)

### Pre-programmed Firmware

- Field-upgradeable firmware to add new features and enhance device performance
- Configurable algorithms optimize data retention based on the usage model
- Embedded FFS enables seamless capacity upgrade with no change to host software

### Advanced Flash Management

- Dynamic and static wear leveling algorithms maximize product lifespan
- Supports TRIM commands to remove invalid data which is no longer in use

### Bad Block Management

- Replaces bad blocks with spare blocks in the NAND flash to prevent uncorrectable errors

### SSD Lifespan Monitoring

- Supports SMART command-based alerts indicating the remaining useful product life

### Built-in ECC

- Uses advanced bit error detection and correction optimized for 3D NAND

### Power Interrupt Data Protection

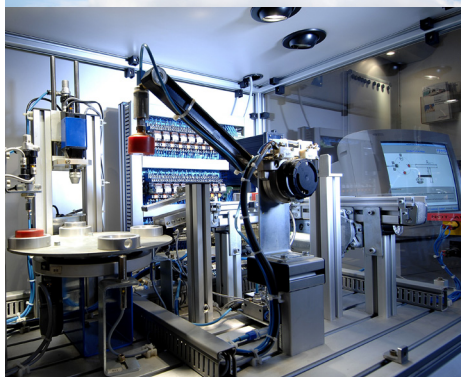
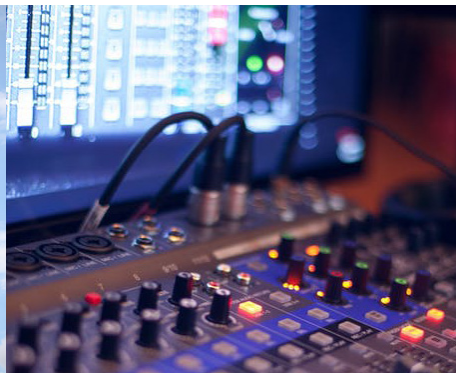
- Helps prevent data loss during unexpected power failure events

### Wide Range of Capacities

- 32 GB - 1 TB
- 128 GB - 3.84 TB (with DRAM)

### Industrial and Commercial Temperatures

- Industrial operation: -40°C to +85°C
- Commercial operation: 0°C to +70°C



## Applications

- Blade server
- Gateway / Switch
- Multi-function printer
- Aviation
- Base station
- Industrial automation & control
- Broadcasting
- Infotainment
- Navigation
- Digital signage
- Transportation
- Security / Surveillance
- Network-attached storage
- Data logger
- Healthcare
- Test & measurement

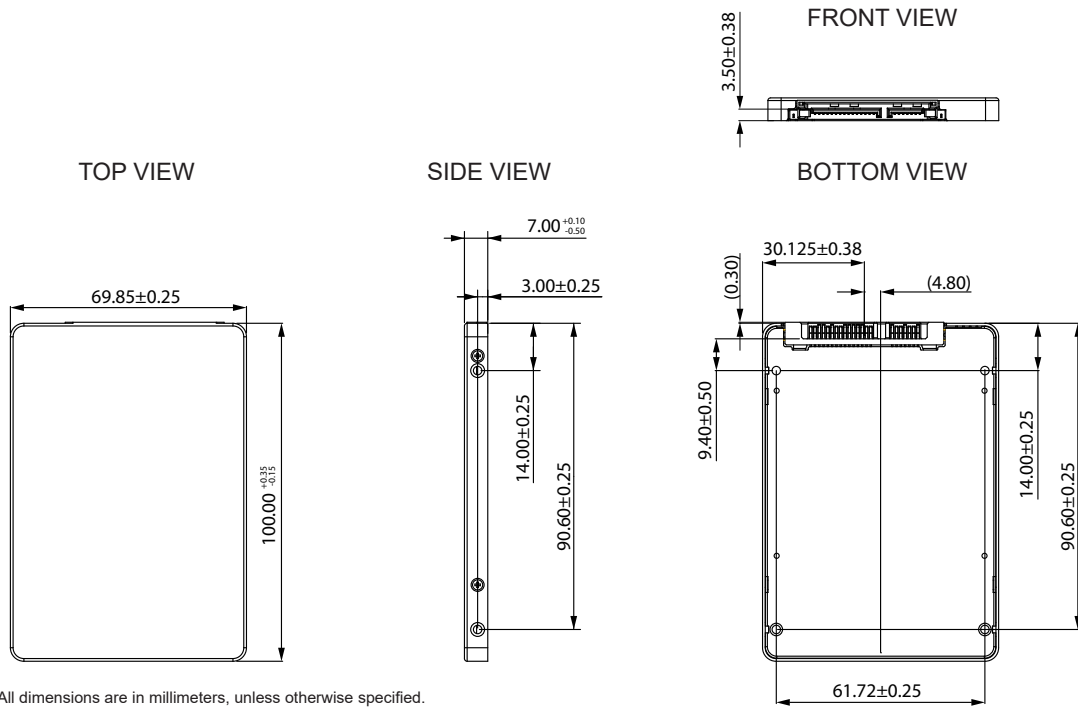
### Greenliant

3970 Freedom Circle, Suite 100  
Santa Clara, CA 95054 USA  
Tel: 1-408-200-8000  
Fax: 1-408-200-8099

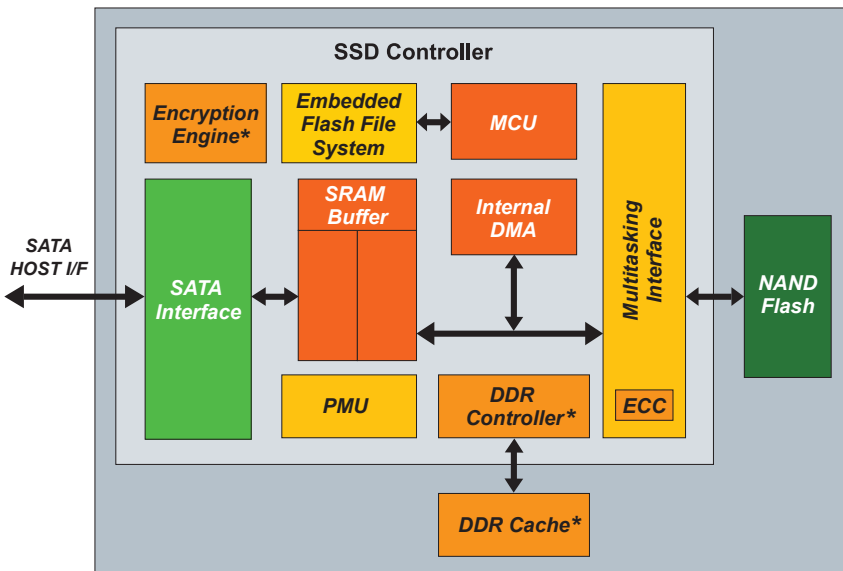
[www.Greenliant.com](http://www.Greenliant.com)

## SATA 2.5" ArmourDrive Board Diagrams

100mm x 69.85mm x 7.00mm  
Pb-free (RoHS compliant)



## SATA 2.5" ArmourDrive Block Diagram



## Product Lineup

89 Series SATA 2.5" ArmourDrive			
Product Series / Capacity	DRAM	NAND Configuration / Endurance	Temperature Range
<b>PX</b> 32 GB - 1 TB	No		Industrial -40°C to +85°C
<b>PX</b> 240 GB - 3.84 TB	Yes	3-bit-per-cell TLC NAND / 3K P/E cycles	
<b>PX</b> 128 GB - 2 TB			Commercial 0°C to +70°C

[twitter.com/Greenliant](https://twitter.com/Greenliant)  
[linkedin.com/company/Greenliant](https://linkedin.com/company/Greenliant)  
[facebook.com/Greenliant](https://facebook.com/Greenliant)

**ArmourDrive FAQs:** [www.greenliant.com/armourdrive-faqs](http://www.greenliant.com/armourdrive-faqs)

For more information, contact your Greenliant representative: [www.greenliant.com/sales](http://www.greenliant.com/sales)



© 2021 Greenliant  
Greenliant, the Greenliant logo and ArmourDrive are trademarks of Greenliant.  
These specifications are subject to change without notice. 10/2021