ATP Electronics Introduces Industry's Best-in-Class I-Temp Operable 8 TB E1.S SSDs

Outstanding 6000+ MB/s Sequential Read/Write performance, 1 DWPD for 5 years based on JESD219A standard for Enterprise Workloads, and 1 year data retention with 100% P/E cycles at 55°C

Taipei, Taiwan (July 2024) – ATP Electronics, the global leader in specialized storage and memory solutions, proudly unveils the N651Si Series E1.S solid state drives (SSDs), which offer best-in-class performance, endurance, and data retention capabilities for the most demanding applications.

Supporting industrial temperature operating range (-40°C to 85°C) along with hardware power loss protection (HW PLP), the new SSDs offer the highest levels of reliability and total cost of ownership value in harsh environments, making them especially beneficial for mission-critical applications running under extreme temperatures, such as automotive, data logger, data centers, and defense/aerospace.

Engineered for 1U Edge servers, the EDSFF offering with 9.5 mm symmetrical enclosure is available with up to 8 TB capacity and is constructed with 512 Gb prime NAND die 176-layer 3D triple level cell (TLC).

Accelerated Performance for Demanding Workloads

ATP Electronics' N651Si Series E1.S SSDs satisfy the demands of modern data-hungry applications for speed, capacity, and scalability.

Sustained sequential read/write performance of 6100/6000 MB/s ensures high-speed processing and access to critical data. These SSDs leverage NVMe 1.4 and the PCIe Gen4 x4 interface to accelerate workloads, maximize throughput, and transform data into actionable insights.

Built to Last Longer: Shattering Endurance Limits

Engineered for 1U Edge servers, ATP's E1.S SSDs are tested rigorously and comply with JEDEC's JESD219A standard for Enterprise Workloads.

With a high endurance rating of 1 drive write per day (DWPD) for five years, the N651Si Series E1.S SSDs can withstand daily writes to their entire 8 TB capacity within the warranty period. This demonstrates that they can deliver long-lasting performance and exceptional reliability even under the most intense operations.

Anti-sulfur resistors provide enhanced defense against corrosion caused by sulfur.

To ensure supply continuity, the new offerings come with ATP's five-year longevity support.

Extended Data Retention

When storage devices reach 100% of their rated P/E cycles, data retention can be a challenge. Archived data, which may be crucial for legal and regulatory compliance, continuing corporate operations, intellectual property protection, and other important purposes, may risk corruption or loss if the storage device cannot maintain integrity over extended periods.

N651Si Series E1.S SSDs with 100% P/E cycles, can store data for up to a year at 55°C. This data retention capability is superior to other storage devices with the same P/E cycles.

I-Temp Rated with HW PLP

Using ATP's Advanced Thermal Management System, the N651Si Series E1.S SSDs deliver excellent thermal performance, making them especially beneficial for mission-critical applications running under extreme temperatures, such as automotive, data logger, data centers, and defense/aerospace.

These SSDs can operate dependably within I-Temp ranges of -40°C to 85°C. When the SSD temperature exceeds the assigned temperature, thermal throttling is activated to prevent damage to both the device and stored data but without sudden drops in performance, thus maintaining balance and sustaining optimal performance.

Hardware power loss protection (HW PLP) makes sure that when a power outage occurs while data is being processed in volatile memory, the data is safely flushed or written to the non-volatile NAND flash, hence preventing data loss or corruption.

Robust Security and Optimized Design

The N651Si Series E1.S SSDs comply with TCG Opal 2.0 and are integrated with AES 256-bit encryption for robust protection against data theft and tampering. Optional self-encrypting drive (SED) capabilities with IEEE 1667 access authentication protocol provide an extra layer of security with full-drive encryption and pre-boot access protection.

Constructed to fit vertically in a 1U chassis, the N651Si Series E1.S SSDs expand the data storage capabilities of compact systems and 1U servers.

The design also allows airflow to pass through the server backplane, thus offering better cooling efficiency. The E1.S SSDs support hot swapping/hot plugging for easy replacement and maintenance without downtime.

Product Specifications

PCIe® Gen4 NVMe E1.S SSD	
Product Line	Superior N651Si
Interface	PCIe Gen4x4
Flash Type	3D TLC
Form Factor	E1.S
Operating Temperature	-40°C to 85°C
Power Loss Protection Options	Hardware + Firmware Based
Optional SED Features	AES 256-bit Encryption, TCG Opal 2.0
Capacity	960 GB~7,680 GB
Performance	
Sequential Read (MB/s) up to	6,100
Sequential Write (MB/s) up to	6,000
Random Reads IOPS up to	870,000
Random Writes IOPS up to	1,200,000
Endurance and Reliability	
Endurance (TBW)1 up to	14,000 TB
Reliability MTBF @ 25°C	>2,000,000 hours
Others	
Dimensions (mm)	118.75 x 33.75 x 9.5
Certifications	RoHS/VCCI/CE/FCC/UKCA
Warranty	5 years

For more information on the ATP N651Si Series E1.S SSDs, visit:

https://www.atpinc.com/products/industrial-enterprise-edsff-e1s-ssd

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About ATP

ATP Electronics (“ATP”) has dedicated over 30 years of manufacturing excellence as the premier provider of memory and NAND flash storage products for rigorous embedded/industrial/automotive applications. As the “Global Leader in Specialized Storage and Memory Solutions,” ATP is known for its expertise in thermal and high-endurance solutions. ATP is committed to delivering add-on value, differentiation and best TCO for customers. A true manufacturer, ATP manages every stage of the manufacturing process to ensure quality and product longevity. ATP upholds the highest standards of corporate social responsibility by ensuring sustainable value for workers, the environment, and business throughout the global supply chain. For more information on ATP Electronics, please visit www.atpinc.com or contact us at info@atpinc.com.