Server SSD: ES - Series

ESN-20: High-Performance PCIe Gen 5 NVMe Enterprise Class Storage

Product Overview

The RedData ESN-20 Solid State Drive (SSD) is designed for demanding server workload; it is US Assembled / TAA compliant. The ESN-20 implements a PCIe Gen 5 NVMe 2.0 interface for high-performance data transfers, with up to 14GB/s sequential reads and 3 million IOPS random reads. The ESN-20 is a Self-Encrypting Drive (SED) that comes with built-in security to protect all data stored on the device. It delivers reliable data-at-rest security by transparently encrypting all data with hardware-based XTS-AES-256 full-disk encryption, combined with access controls and Cryptographic Erase functionality. The device is compliant with the Trusted Computing Group Storage Opal SSC 2.0 specification. CC/NIAP security certification and NSA CSfC Hardware FDE Approved Products listing are planned for Summer 2026.

Product Features

Sequential Read	Up to 14,000 MB/s
Sequential Write	Up to 8,500 MB/s
Random Read	Up to 3,000K IOPS
Random Write	Up to 900K IOPS
Interface	PCIe Gen5 NVMe 2.0 Single Port x4 lane / Dual Port 2x2 lanes
Security Features	AES256-XTS data encryption TCG Opal SSC 2.0x Crypto Erase FIPS140-3 level 2 in-progress Common Criteria/NIAP cPP for FDE v2.0 in-progress
Form Factor	U.2 – 15mm
Drive Write Per Day	1 or 3

Capacity	1 DWPD: 1920, 3840, 7680, 15360, 30720 GB 3 DWPD: 1600, 3200, 6400, 12800, 25600 GB
MTBF	2.5 million hours
Power Consumption	Max 25W Idle <9W
Temperature	Operating 0ºC ~ 70ºC with airflow Non-Operating -40ºC ~ 85ºC
Enterprise Features	End-to-End Data Path Protection Namespaces Thermal Throttling Power Loss Protection Meta Data Protection
Compliance	RoHS
Country of Origin	US: ITAR, AS9100, ISO 14001 certified facility Taiwan: TAA compliant
Warranty	Limited 5 years, blackhole available

- 1 GB = 1,000,000,000 bytes.
- Performance differs based on flash configuration and platform
- Sequential Performance is based on FIO on Linux, 128K, with QD=32, 1 worker, and test drive set as secondary.
- Random Performance is based on FIO on Linux, 4K data size, QD=32, 1 worker, 4K aligned.
- Power consumption is measured during the sequential read/write and random read/write operations performed by iometer
- The results of DWPD are obtained in compliance with JESD219A Standards.

Product Configurations

For more information on available configurations, please contact us at: inquiries@rpics.com.

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