



# RP4000 | PCIe NVMe | M.2 2280 SSD

SMART Modular's RP4000 PCIe NVMe SSDs are designed to meet the specific needs of enterprise and industrial OEMs, particularly in server, storage cache/ accelerator, networking, and data communications applications that demand reliable embedded SSDs for booting, operating systems, application software, and data storage.

These SSDs implement SMART's SafeDATA<sup>™</sup> power-loss, data-protection technology for graceful handling of power fluctuations and sudden power loss events. They also function as Self-Encrypting Drives (SED) with hardware AES-256 encryption and support TCG Opal 2.0. The RP4000 PCIe NVMe SSDs address the need for enhanced reliability by incorporating advanced LDPC error detection and correction with internal data redundancy coding and end-to-end data path protection.



- PCIe Gen4 x4 NVMe 1.4 Compliant
- SafeDATA Power-Loss, Data-Protection Technology
- TCG OPAL 2.0 and AES 256 Encryption
- End-to-End Data Path Protection
- Sanitize Crypto Erase and Block Erase
- NVME-MI
- SECDED (Single Error Correction, Double Error Detection)
- S.M.A.R.T.

## **Product Family Overview**

| Form Factor  | Capacity        | Sequential Performance |
|--------------|-----------------|------------------------|
| M.2 2280 SSD | 480GB to 1920GB | Up to 6000MB/s Read    |
|              |                 | Up to 2000MB/s Write   |





## Applications

- Data Center
- HPC
- Networking
- Storage Server
- Telecom

# Specifications

|   | RP4000   PCIe NVMe   M.2 2280 SSD                   |  |
|---|---|--|
| NAND Type   | eTLC  |  |
| Performance   |   |  |
| Host Interface Rate (maximum)                         | PCIe Gen4 x4  |  |
| Capacities  | 480GB to 1920GB                                     |  |
| Sequential Read (maximum)                             | Up to 6000 MB/s                                     |  |
| Sequential Write (maximum)                            | Up to 2000 MB/s                                     |  |
| Random Read (maximum)                                 | Up to 800K IOPS                                     |  |
| Random Write (maximum)                                | Up to 60K IOPS                                      |  |
| Reliability   |   |  |
| MTBF  | > 2,000,000 hours                                   |  |
| Endurance<br>(JEDEC Enterprise Workload) <sup>1</sup> | 1920GB: 2660 TBW                                    |  |
|   | 960GB: 1330 TBW                                     |  |
|   | 480GB: 650 TBW                                      |  |
| DWPD  | 0.7   |  |
| SafeDATA  | Standard  |  |
| Error Correction                                      | LDPC  |  |
| Power   |   |  |
| Input Voltage   | VCC: 3.3 V ± 5%                                     |  |
| Power   |   |  |
| Charle  | 1500G half-sine, 0.5 msec, 1 shock along each axis, |  |
| SHOCK   | X, Y, Z in each direction                           |  |
| Vibration   | 20G 80-2000Hz, 1.52mm 20-80Hz, 3 axis               |  |
| Operating Temperature                                 | Commercial: 0°C to +70°C                            |  |
| Storage Temperature                                   | -40 °C to +85 °C                                    |  |
| Humidity  | 40°C, Operation: 90% RH, Storage: 93% RH            |  |
| Physical  |   |  |
| Length  | 80.0 mm   |  |
| Width   | 22.0 mm   |  |
| Height  | 4 mm  |  |

<sup>1</sup>Endurance is directly related to the User Specific Workload.



For more information, please visit: www.smartm.com

\*Product images are for promotional purposes only. Labels may not be representative of the actual product.

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## **Ordering Information**

| Part Number  | Density |  |
|--|---------|--|
| RP4000   PCIe NVMe   M.2 2280 SSD<br>Commercial Operating Temperature (0°C to +70°C) |         |  |
| SVMP81920F1P2AD1   | 1920GB  |  |
| SVMP8960GF1P2AD1   | 960GB   |  |
| SVMP8480GF1P2AD1   | 480GB   |  |