

S1800, M.2 2280 & U.2 PCIe NVMe

SMART Modular Technologies' S1800v, PCIe products are robust, solid state drives with PCIe Gen 3x4 interface. These drives specifically targets the needs of OEM markets, such as server, storage cache/accelerators, networking, and data communications applications requiring reliable internal storage with a small footprint. The embedded products are also a natural fit for enterprise applications, including computing, medical, automotive, and industrial applications.

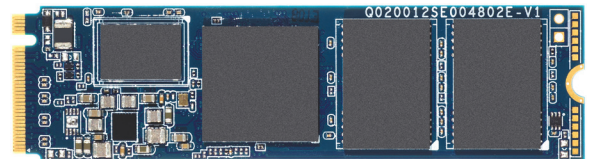
Utilizing PCI NVMe 1.2 compliant interface, PCIe M.2 2280 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. Utilizing PCIe Base 3.1 interface, PCIe U.2 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. SMART Modular PCIe M.2 2280 and PCIe U.2 products address the need for enhanced reliability by incorporating on-board error detection and correction and static wear leveling algorithms to provide reliable operation over the product life cycle.

Features & Benefits

- PCIe Gen 3x4 NVMe 1.3 compliant
- Advanced Flash Management
- Supports power saving modes of APST, APSM, and L1.2
- Supports for 48bit LBA addressing with larger max transfer size
- Advanced device security features with standard NVMe format

S1800 Product Family Overview

| | Capacity | Performance Sequential |
|----------------------|-----------------|---------------------------------------------|
| M.2 PCIe NVMe | | |
| M.2 2280 | 240GB to 1920GB | Up to 3200MB/s Read Up to 1000MB/s Write |
| U.2 PCIe NVMe | | |
| U.2 | 240GB to 3840GB | Up to 3200MB/s Read Up to 1000MB/s Write |



Applications

- Server, storage cache/accelerators
- Networking
- Data communications
- Other applications requiring internal storage with a small footprint
- Industrial control
- Single board computers for medical, and industrial control applications

S1800, M.2 & U.2

Specifications

| | M.2 PCIe NVMe | U.2 PCIe NVMe |
|-------------------------------|--------------------------------------------------------------------------------------------|-----------------|
| Performance | | |
| | TLC | |
| Host Interface Rate (Maximum) | Gen 3x4 8.0Gbps | |
| Number of Flash Channels | 8 | |
| Capacities | 240GB to 1920GB | 240GB to 3840GB |
| Sequential Read (maximum) | 240GB - 1920GB: 3200MB/s | |
| Sequential Write (maximum) | 240GB: 330MB/s 480GB: 580MB/s 1920GB - 3840GB: 1000MB/s | |
| Random Read (maximum) | 140K | |
| Random Write (maximum) | 220K | |
| Host Interface Rate (maximum) | 8.0Gb/s, 5Gb/s, 2.5Gb/s (PCIe3.1/PCIe2.0/PCIe1.0) | |
| Reliability | | |
| Data Reliability | < 1 Non-Recoverable Error in 10 ¹⁷ bits read | |
| Data Retention | 10 years >90% life remaining 1 year at the end of life | |
| Endurance | 240GB: 140 TBW 480GB: 295 TBW 960GB: 595 TBW 1920GB: 1210 TBW 3840GB: 2905 TBW | |
| Error Correction | LDPC (Equivalent to 130 bits/2KB) | |
| Environmental | | |
| Shock - Non-Operating | 1500 g half-sine, 0.5 msec, 1 shock along each axis, X,Y,Z in each direction | |
| Shock - Operating | 50 g half sine, 11 msec, 3 shocks along each axis, X,Y,Z in each direction | |
| Vibration - Operating | 20 g rms 80-2000Hz, 1.52mm 20-80Hz, 3 axis | |
| Operating Temperature | Commercial: 0°C to 70°C Industrial: -40°C to 85°C | |
| Storage Temperature | -40°C to +85°C | |
| Humidity | 10% to 90%, non-condensing, relative humidity | |
| Physical | | |
| Length | 80.0 mm | 100 mm |
| Width | 22.0 mm | 69.8 mm |
| Height | 1.35 mm | 9.5 mm |

M.2 PCIe NVMe Ordering Information

| Part Number | Capacity |
|----------------------------------|----------|
| M.2 2280 Commercial Grade | |
| SVM2P8B1920ST51 | 1920GB |
| SVM2P8B960GST51 | 960GB |
| SVM2P8B480GST51 | 480GB |
| SVM2P8B240GST51 | 240GB |
| M.2 2280 Industrial Grade | |
| SVM2P8B960GSTI51 | 960GB |
| SVM2P8B480GSTI51 | 480GB |
| SVM2P8B240GSTI51 | 240GB |

U.2 PCIe NVMe Ordering Information

| Part Number | Capacity |
|-----------------------------|----------|
| U.2 Commercial Grade | |
| SVU2PB3840ST51 | 3840GB |
| SVU2PB1920ST51 | 1920GB |
| SVU2PB960GST51 | 960GB |
| SVU2PB480GST51 | 480GB |
| SVU2PB240GST51 | 240GB |
| U.2 Industrial Grade | |
| SVU2PB1920STI51 | 1920GB |
| SVU2PB960GSTI51 | 960GB |
| SVU2PB480GSTI51 | 480GB |
| SVU2PB240GSTI51 | 240GB |

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