

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

S1800, M.2 & U.2

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.

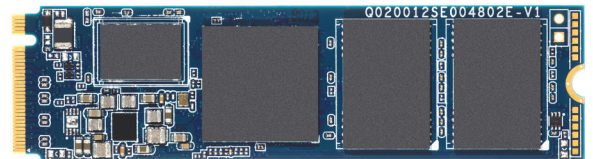
Utilizing PCI NVMe 1.2 compliant interface, PCIe M.2 2280 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. Utilizing PCIe Base 3.1 interface, PCIe U.2 modules are easily integrated into a host system without any special BIOS modifications 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

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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