

# 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.

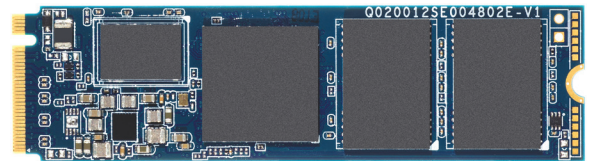
Utilizing PCI NVMe 1.2 compliant interface, PCIe M.2 2280 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. Utilizing PCIe Base 3.1 interface, PCIe U.2 modules are easily integrated into a host system without any special BIOS modifications 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
<b>M.2 PCIe NVMe</b>		
M.2 2280	240GB to 1920GB	Up to 3200MB/s Read Up to 1000MB/s Write
<b>U.2 PCIe NVMe</b>		
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
<b>Performance</b>		
<b>TLC</b>		
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)	
<b>Reliability</b>		
Data Reliability	< 1 Non-Recoverable Error in 10 <sup>17</sup> 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)	
<b>Environmental</b>		
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	
<b>Physical</b>		
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
<b>M.2 2280 Commercial Grade</b>	
SVM2P8B1920ST51	1920GB
SVM2P8B960GST51	960GB
SVM2P8B480GST51	480GB
SVM2P8B240GST51	240GB
<b>M.2 2280 Industrial Grade</b>	
SVM2P8B960GSTI51	960GB
SVM2P8B480GSTI51	480GB
SVM2P8B240GSTI51	240GB

## U.2 PCIe NVMe Ordering Information

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

## Contact information

**Corporate Headquarters/North America:** T: (+1) 800-956-7627 • T: (+1) 510-623-1231 • F: (+1) 510-623-1434 • E: info@smartm.com

**Customer Service:** T: (+1) 978-303-8500 • E: customers@smartm.com

**Latin America:** T: (+55) 11 4417-7200 • E: sales.br@smartm.com

**EMEA:** T: (+44) 0 7826-064-745 • E: sales.euro@smartm.com

**Asia/Pacific:** T: (+65) 6678-7670 • E: sales.asia@smartm.com

For more information, please visit: [www.smartm.com](http://www.smartm.com)

