SMART®
Modular Technologies

M1400 M.2 PCIe NVMe

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The M1400 M.2 2280 is the first SMART PCIe NVMe SSD product designed with 3rd generation 3D NAND and advanced LDPC error correction. PCIe Gen3 x2 and NVMe v1.3 compliant, the M1400 M.2 is designed specifically for embedded applications supporting lower capacities from 120GB to 960GB. Available in both commercial and industrial temperature ranges.

Utilizing PCI Express 3.1 compliant interface, M1400 PCIe NVMe M.2 2280 modules are easily integrated into a host system without any special BIOS modifications or additional device drivers. These products offer sustained read performance up to 1600 MBytes/sec and burst write performance of up to 1100 MBytes/sec. The modules are available in capacities of 120 GBytes to 960 GBytes. SMART Modular M1400 PCIe NVMe SSD 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.
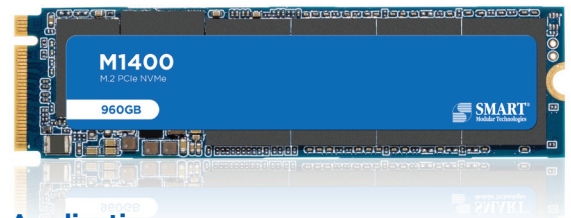
SMART's 1400 M.2 PCIe NVMe SSDs are offered with Triple Level Cell (TLC) 3D NAND. They provide enhanced reliability by incorporating onboard error detection and correction and static wear leveling algorithms to provide reliable operation over product life. S.M.A.R.T. ID reporting provides health information to determine the expected life of the SSD.

Features & Benefits

- PCIe Gen3 x2 NVMe 1.3 compliant
- Advanced Flash Management
- Supports power saving modes of APST, APSM, and L1.2
- Advanced device security features with standard NVMe format

Product Family Overview

	Capacity	Performance Sequential
M1400 M.2 PCIe NVMe		
2280-S3-B-M TLC	120GB, 240GB, 480GB, 960GB	1600MB/s Read (max) 1100MB/s Write (max)

Applications

- Industrial, embedded applications
- Networking
- Data communications
- Single board computers

Specifications

	M1400 M.2 PCIe NVMe
Performance	
	TLC
Host Interface Rate (Maximum)	8.0 Gbps x2
Capacities	120GB, 240GB, 480GB, 960GB
Sequential Read (maximum)	1600MB/s
Sequential Write (maximum)	1100MB/s
Reliability	
Data Reliability	< 1 Non-Recoverable Error in 10^{16} bits read
Data Retention	10 years >90% life remaining 1 year at the end of life
Endurance (client workload)	230 TBW (240GB capacity)
Error Correction / Error Detection	LDPC ECC (equivalent to 120 bits per 1Kbytes)
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	Commercial -40°C to 85°C Industrial -40°C to 85°C
Humidity	10% to 90%, non-condensing, relative humidity
Physical	
Length	80.0 mm
Width	22.0 mm
Height	2.30 mm

Ordering Information

Part Number	Capacity
M1400 PCIe NVMe M.2 2280 Commercial Temperature	
SVM2PHA120GMT51	120GB
SVM2PHA240GMT51	240GB
SVM2PHA480GMT51	480GB
SVM2PHA960GMT51	960GB
M1400 PCIe NVMe M.2 2280 Industrial Temperature	
SVM2PHA120GMTI51	120GB
SVM2PHA240GMTI51	240GB
SVM2PHA480GMTI51	480GB

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