



SMART RUGGED™

T6CN | PCIe/NVMe E1.S, U.2 and M.2 2280

SMART's RUGGED T6CN PCIe/NVMe Gen 4 x4 solid state drives (SSDs) deliver high performance, high-capacity storage solutions optimized for defense, aerospace and other applications requiring durable, rugged and secure storage.

The RUGGED T6CN PCIe/NVMe data storage drives integrate high-speed PCIe Gen4 x4 interface with 3D NAND flash memory technology, delivering capacities up to 15360GB*, delivering a high-performance solution for a wide range of applications. The T6CN drives are available in EDSFF E1.S, U.2 and M.2 2280 form factors.



Features & Benefits

- AES-XTS 256-bit encryption automatically protects all data written to the drive
- True industrial grade storage solution for “no-compromise” applications
- Advanced LDPC error correction
- Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) support
- 100% 8-hour burn-in over temperature (-40°C to +85°C, I-Temp Version)
- SafeDATA™ technology is a standard feature in U.2 and E1.S and safeguards the integrity, functionality, and data of the SSD in the event of sudden power loss.†

Applications

- Defense
- Telemetry
- Flight Data Recorders
- Sensor Capture
- Industrial
- Surveillance

Product Family Overview

Capacity	Sequential Performance	Random Performance
960GB to 15360GB	Up to 3,500 MB/s Read Up to 3,000 MB/s Write	500,000 IOPS Read 55,000 IOPS Write

One gigabyte, or GB, equals one billion bytes when referring to drive capacity. Accessible capacity may vary based on the operating environment and drive formatting

* The 15360GB model (U.2) will lag by 1-2 quarter

† pFail is only available in U.2 and E1.S form factors

Specifications

	E1.S	U.2	M.2 2280
NAND Type	TLC		
Compliance			
PCIe	Gen 4 x4		
Performance			
Sequential Read MB/s	Up to 3,500	Up to 3,500	Up to 3,200
Sequential Write MB/s	Up to 3,000	Up to 3,000	Up to 3,200
Random Read (4KB) IOPS	Up to 500,000	Up to 500,000	Up to 400,000
Random Write (4KB) IOPS	Up to 55,000	Up to 55,000	Up to 50,000
Capacity			
3D-TLC	960GB–7680GB	960GB–15360GB	960GB–3840GB
Reliability			
MTBF	> 2M hours, Telcordia 20°C		
Data Reliability	1 in 10 ¹⁷ bits read		
Data Retention	> 10 years @ 25°C		
Endurance	C-Temp: 16,800 TBW (with 15,360GB) I-Temp: 9,600 TBW (with 15,360GB)		
Warranty	1 Year		
Power			
Input Voltage	12.0V ± 10%	12.0V ± 10%	3.3V ± 5%
Idle (typical)	< 1.0 W	< 1.0 W	< 1.0 W
Operational (typical)	< 12 W	< 12 W	< 12 W
Environmental			
Relative Humidity	5% to 95% non-condensing		
Conformal Coating	Optional		
Operating Temp	C-Temp: 0°C - 70°C I-Temp: -40°C - 85°C		
Storage Temp	C-Temp: -40°C - 85°C I-Temp: -50°C - 95°C		
Mechanical			
Length	118.75mm	100mm	80mm
Width	9.5mm	69.85mm	11.6mm
Height	33.75mm	7.0mm	24mm
Connector	E1.S	U.2	M.2 M-Key

E1.S and M.2 dimensions include heatsink

Data Security Features

	U.2 PCIe/NVMe
Encryption	AES-XTS 256-bit (FIPS 197 compliant)

E1.S Ordering Information

Part Number	Density
C-Temp TLC	
HRMN8X0960LC001/002	960GB
HRMN8X1920LC001/002	1920GB
HRMN8X3840LC001/002	3840GB
HRMN8X7680LC001/002	7680GB
I-Temp TLC	
HRMN8X0960RI001/002	960GB
HRMN8X1920RI001/002	1920GB
HRMN8X3840RI001/002	3840GB
HRMN8X7680RI001/002	7680GB

E1.S and M.2 dimensions include heatsink

U.2 Ordering Information

Part Number	Density
C-Temp TLC	
HRMN7X0960LC001	960GB
HRMN7X1920LC001	1920GB
HRMN7X3840LC001	3840GB
HRMN7X7680LC001	7680GB
HRMN7X016TLC001	15360GB
I-Temp TLC	
HRMN7X0960RI001	960GB
HRMN7X1920RI001	1920GB
HRMN7X3840RI001	3840GB
HRMN7X7680RI001	7680GB
HRMN7X016TRI001	15360GB

M.2 2280 Ordering Information

Part Number	Density
C-Temp TLC	
HRMN3X0960LC001/002	960GB
HRMN3X1920LC001/002	1920GB
HRMN3X3840LC001/002	3840GB
I-Temp TLC	
HRMN3X0960RI001/002	960GB
HRMN3X1920RI001/002	1920GB
HRMN3X3840RI001/002	3840GB

E1.S and M.2 dimensions include heatsink



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