



Western Digital

PRODUCT BRIEF



Western Digital CL SN720 NVMe SSD

Key Benefits and Features

- Up to 800 TBW Endurance (1TB Model)
- Read Speeds up to 3,400MB/s
- 2M Hours MTTF
- 256GB – 2TB Capacities
- M.2 2280 Form Factor
- 0°C – 85°C Extended Operating Temperature
- 5-Year Limited Warranty
- Remove Management Capabilities

Western Digital® CL SN720 NVMe™ SSD for Data Centers

Purpose-built for the demands of edge computing and operating system boot drives

The Western Digital CL SN720 NVMe SSD for data centers provides high performance for read-intensive workloads: content delivery, internet gaming, IoT, data analytics, and operating system boot operations.

Available in capacity points from 256GB to 2TB¹, the Western Digital CL SN720 NVMe SSD allows for storage flexibility based on data size requirements related to edge computing and operating system operations.

LDPC error correction mechanisms provide enhanced reliability and help support a five-year limited warranty. The Western Digital CL SN720 NVMe SSD operates with most common data center operating systems, including Windows Server® 2012/2016 and multiple versions of the enterprise Linux® operating systems.

The Western Digital CL SN720 NVMe SSD is a PCIe Gen3 x4 storage device offered in a M.2 2280 form factor. In environments where data access speed is essential, the Western Digital CL SN720 NVMe SSD delivers extreme performance with sustained sequential read and write speeds up to 3,400MB/s and 2,800MB/s respectively.

It is architected to help minimize the probability of data loss due to unexpected power loss. To help address data security requirements, the Western Digital CL SN720 NVMe SSD supports self-encrypting-drive (SED) capability, with TCG OPAL 2.01 SSC security protocol support to help protect data from unauthorized access. The Western Digital CL SN720 NVMe SSD also includes Instant Secure Erase (ISE) functionality to speed and simplify drive redeployment and retirement.

Summary

The Western Digital CL SN720 NVMe SSD enables outstanding performance, optimal endurance, and extended enterprise validation for Boot and Edge applications. With capacities from 256GB to 2TB in an M.2 form factor, the Western Digital CL SN720 NVMe SSD delivers a robust, reliable, and future-ready storage solution.

	Performance	Reliability	Rigorous Testing	Security
Feature	Optimized performance for read-intensive applications	LDPC error-correction mechanisms and data-path protection	Server and software interoperability	SED functionality with TCG Opal 2.01 SSC support
Benefit	2.5–6X the performance versus SATA SSDs	Add additional reliability to your data	System integration testing ensures quality and broad platform compatibility	Helps address data security and effective retirement/redeployment

Western Digital CL SN720 NVMe SSD for Data Centers

Specification¹

Form Factors	M.2 2280			
Interface	PCIe Gen3 X4 NVMe v1.3			
Formatted Capacities ²	256GB, 512GB, 1TB, 2TB ³			
Security	TCG OPAL 2.01, SSC support			

Performance ⁴	256GB	512GB	1TB	2TB ³
Sequential Read (128KB MB/s up to)	3,000	3,400	3,400	3,470
Sequential Write (128KB MB/s up to)	1,600	2,500	2,800	2,800
Random Read (4KB, 32QD, IOPS up to)	210K	420K	500K	450K
Random Write (4KB, 32QD, IOPS up to)	180K	320K	410K	390K
Sustained Sequential Write (128KB MB/s up to)	450	800	1,400	1,380
Sustained Random Write (4K, IOPS up to)	3,900	5,850	2,650	3,200
Sustained Random 70/30 Read/Write (4K, IOPS up to)	10,500	16,500	6,450	9,000
Endurance ⁵ (TBW)	200	400	800	1600

Power	256GB	512GB	1TB	2TB ³
Peak Power (10μs) (A)	2.8	2.8	2.8	2.8
Average Active Power ^{6,7} (mW)	up to 140	up to 140	up to 140	up to 140
Low Power (PS3) ⁷ (mW)	up to 100	up to 100	up to 100	up to 100
Sleep (PS4) ⁷ (mW)	2.5	2.5	2.5	2.5
Supply Voltage (V / ±5%)	3.3	3.3	3.3	3.3

Reliability

MTTF ⁸	up to 2M hours			
UBER	10 ⁻¹⁷			

Environmental

Operating Temperatures ⁹	0°C to 85°C			
Non-operating Temperatures ¹⁰	-55°C to 85°C			
Certifications	FCC, UL, TUV, KCC, BSMI, VCCI, C-Tick			
Limited Warranty ¹¹	5 years			

Physical Dimensions

Width	22mm ± 0.15mm			
Length	80mm ± 0.15mm			
Thickness (max)	2.38mm			
Weight	7.5g ± 1g			

Ordering Information	256GB	512GB	1TB	2TB ³
SKUs for M.2 2280 S3-M Form Factor	SDAQNTW-256G-2000	SDAQNTW-512G-2000	SDAQNTW-1T00-2000	SDAQNTX-2T00-2000

- Specifications below are based on 1TB capacity and vary by capacity. Contact Western Digital for further details. Product specifications subject to change without notice. Not all products are available in all regions of the world.
- As used for storage capacity, one gigabyte (GB) = one billion bytes and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment.
- 2TB expected availability in early 2019.
- Test Conditions: Sustained Performance is based on the FIO benchmark using a 1TB Western Digital CL SN720 NVMe SSD and a 1000MB LBA range ASUS Z170A desktop with Intel® i7-6700K 4.0GHz, 8GB 2133MHz DDR4. Windows 10 Pro 64-bit using Microsoft StorNVMe driver, secondary drive. Performance may vary based on host device. 1 MB = 1,000,000 bytes. IOPS = input/output operations per second.
- TBW (terabytes written) values calculated using JEDEC client workload (JESD219) and vary by product capacity.
- Measured using MobileMark™ 2014 on HP EliteBook X360 1030 G2 with i7-7600U, 8GB RAM. Windows 10 Pro, 64-bit RS3 using Microsoft StorNVMe driver, primary drive.
- Power measurements at 25°C.
- MTTF = Mean Time To Failure based on internal testing and by using Telcordia stress part testing (Telcordia SR-332, GB, 40°C). MTTF is based on a sample population and is estimated by statistical measurements and acceleration algorithms. MTTF does not predict an individual drive's reliability and does not constitute a warranty.
- Operational temperature as reported by device (composite temperature).
- Non-operational storage temperature does not guarantee data retention.
- 5 years or Max Endurance (TBW) limit, whichever occurs first. 5 year warranty in regions not recognizing "limited." See <https://www.westerndigital.com/support> for more details.

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