



Synology SNV3410 Durable SSDs Built for Demanding Caching Workloads Instructions

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M.2 NVMe SSD
SNV3410/ 3510
Built for Demanding Caching Workloads
Instructions



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SNV3410 Durable SSDs Built for Demanding Caching Workloads

Durable SSDs Built for Demanding Caching Workloads

Synology SNV3410/3510 NVMe SSDs are designed to handle tough caching workloads in a 24/7 multi-user environment. Their consistent I/O performance boosts system responsiveness and speeds up handling of frequent access data. Purpose-built for Synology systems, the NVMe solid-state drive line provides a streamlined storage experience while minimizing service disruptions. SNV3410/3510 comes with advanced lifetime analytics³ and is backed by Synology's 5-year limited warranty.⁵

Highlights

- **High Performance**

Up to 400,000/70,000 sustained 4K random read/write IOPS for demanding I/O¹

- **Enterprise-Grade Endurance**

Suitable for intensive caching workloads at up to 1,022 TBW²

- **Robust Data Protection**

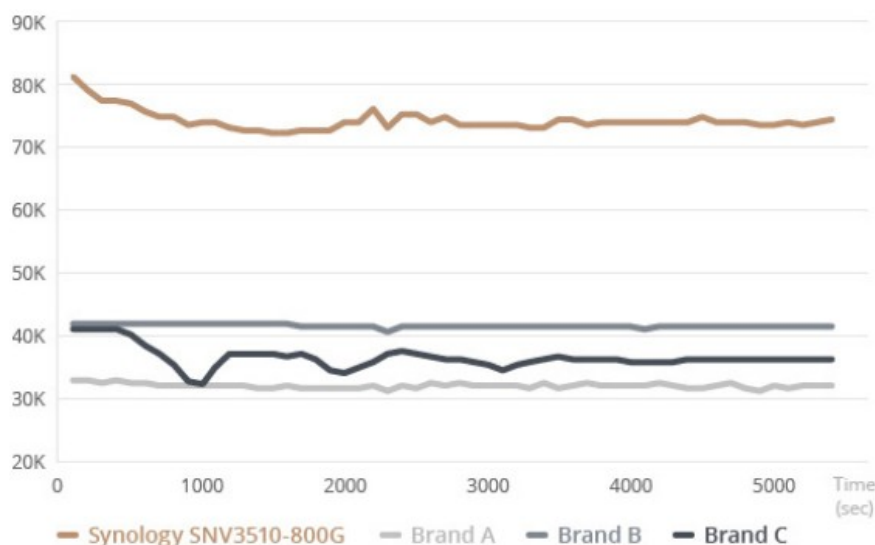
End-to-end data protection ensures data integrity

- **Lifetime Analytics**

Actionable insight helps make optimal use of SNV3000 series SSD performance and longevity³

- **Built for Synology Systems**

Proven interoperability through rigorous validation and automatic firmware updates⁴ through Synology DSM



Consistently Fast

Synology SNV3000 series drives deliver superior performance compared with similar-class SSDs.⁷

Consistently Fast Caching for 24/7 Environment

Built for system cache, SNV3410/3510 drives push up random I/O performance and reduce latency in demanding 24/7 environments. They provide a durable caching experience with up to 400,000/70,000 4K random read/write IOPS¹ and a 1,022 TBW endurance rating,² suitable for multi-user environments, multimedia post-production, and database applications. The SNV3000 series comes in two form factors, SNV3410 for 2280 and SNV3510 for 22110. It allows you to build a highly efficient storage system with exceptional performance, without sacrificing any 3.5" drive bays.

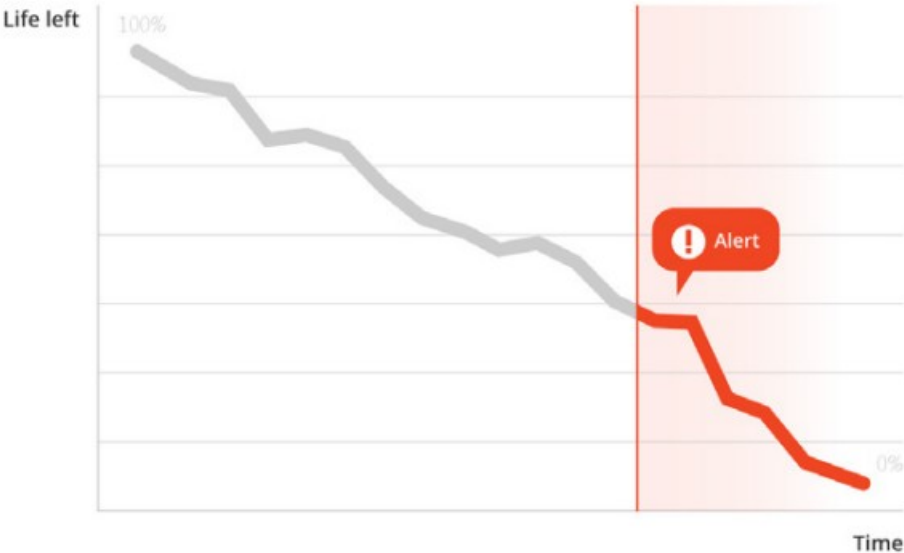
Data Integrity Safeguards

SSD caching boosts your system's read/write performance by storing transient data in solid-state drives to increase retrieval efficiency and cut down recurring requests to the primary storage. Data integrity is important, as cached data are continuously relocated. The Synology SNV3000 series offers end-to-end data protection to

safeguard data integrity over the entire transfer path. The SNV3510 comes with power loss protection circuit design,6 further preventing data corruption during an abnormal shutdown: Dedicated capacitors provide power to flush data-in-flight into NAND flash in a power loss event and firmware is designed to enable a correct restart on the next power-up.

Lifetime Analytics Based on Your Workload

Full integration with Synology’s DiskStation Manager (DSM) operating system allows Synology systems to provide lifetime analytics3 based on actual workloads for each SNV3000 series drive. Timely notifications allow you to plan further ahead for uninterrupted system performance and longevity. Easy monitoring allows you to make optimal use of each SSD.



SSD Lifetime Analytics

SNV3000 series’ full integration with Synology DSM allows for SSD remaining lifetime analytics based on each unit’s actual workload.

Purpose-Built for Synology Systems

Firmware versions and component changes can over time cause SSD compatibility issues. Synology SNV3000 series SSDs are thoroughly tested for compatibility with our systems following each engineering change, while firmware and component changes are strictly managed. Firmware updates can be installed through Synology DSM at a touch of a button.4 Intensive I/O stress, power cycling, and temperature trials ensure that all products meet our strictest standards for quality and reliability.

Technical Specifications

Hardware specifications

Model number	SNV3410-400G	SNV3510-400G	SNV3410-800G	SNV3510-800G
Capacity	400 GB		800 GB	
Form factor	M.2 2280	M.2 22110	M.2 2280	M.2 22110
Interface	NVMe PCIe 3.0 x4			

Performance

Sequential read (128 KB, QD32) ¹	3,000 MB/s	3,100 MB/s
Sequential write (128 KB, QD32) ¹	750 MB/s	1,000 MB/s
Random read (4 KB, QD256) ¹	225,000 IOPS	400,000 IOPS
Random write (4 KB, QD256) ¹	45,000 IOPS	70,000 IOPS

Endurance and Reliability

Terabytes Written (TBW)	491 TB	1,022 TB
Mean Time Between Failures (MTBF)	1.8 million hours	
Uncorrectable Bit Error Rates (UBER)	<1 sector per 10 ¹⁷ bits read	
Power loss protection –	Yes 6	Yes 6
Warranty	5 years ⁵	

Power Consumption

Supply voltage	3.3 V (±5%)			
Active read (Typ.)	3.5 W	4.0 W	5.5 W	6.2 W
Active write (Typ.)	3.3 W	3.6 W	4.6 W	5.1 W
Idle	1.6 W			1.7 W

Temperature

Operation temperature	0°C to 70°C (32°F to 158°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)

Others

Dimension (H x W x D)	3.5 mm x 22 mm x 80 mm	4.5 mm x 22 mm x 10 mm	3.5 mm x 22 mm x 80 mm	4.5 mm x 22 mm x 10 mm
Environment	RoHS compliant			
Certification	FCC, CE, EAC, BSMI, VCCI, RCM, KC, UKCA			

Note: Model specifications are subject to change without advance notice. Please refer to www.synology.com for the latest information.

1. Performance measured using FIO on Linux with Queue Depth 32/256 (128 KB = 131,072 bytes; 4 KB = 4,096 bytes).
2. The endurance rating is calculated based on JESD219A enterprise workload.

3. Lifetime analytics are available in DSM 6.2.3-25426 and above.
4. Automatic firmware updates are available in DSM 6.2.4-25556 and above.
5. 5-year limited warranty provides coverage until the end of the warranty period or until the endurance usage of the drive has been reached, whichever comes first.
6. Power loss protection circuit design is available on SNV3510 to further prevent data corruption in case of power failure.
7. Chart shows sustained 4K random write IOPS for the SNV3510-800G and three similar-class SSDs from competitors.

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Synology®

DATASHEET | M.2 NVMe SSD SNV3410/3510

Documents / Resources

	<p>Synology SNV3410 Durable SSDs Built for Demanding Caching Workloads [pdf] Instructions</p> <p>SNV3410 Durable SSDs Built for Demanding Caching Workloads, SNV3410, Durable SSDs Built for Demanding Caching Workloads, SSDs Built for Demanding Caching Workloads, Demanding Caching Workloads, Caching Workloads, Workloads</p>
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References

- Synology [Synology Inc.](#)