Biwin
Storage Technology

BIWIN SP51Y Enterprise SSD

The BIWIN SP51Y Enterprise PCIe SSD features a next-generation controller and Yangtze Memory's Xtacking® 4.0 NAND technology, and is compliant with the NVMe 2.0 specifications to unlock the full potential of its PCIe Gen5 interface.

Available in capacities ranging from 3.2 TB to 12.8 TB, it offers 3 DWPD endurance. Delivering exceptional performance, high reliability, and outstanding power efficiency, the SP51Y provides a robust storage foundation for mission-critical workloads including AI training, cloud computing, core databases, and virtualization.

Key Features

Exceptional Performance

Powered by the high-speed PCIe 5.0 x4 interface with up to twice the bandwidth of Gen4, the BIWIN SP51Y Enterprise PCIe SSD integrates customized firmware optimization to unleash the performance potential of the Gen5 interface. It delivers sequential read/write speeds of up to 14,200 MB/s and 11,000 MB/s, with 4K random read/write performance reaching up to 3,300K IOPS and 1,000K IOPS, respectively.

Multiple Configurations for Flexible Deployment

Available in capacities of 3.2 TB, 6.4 TB, and 12.8 TB, the BIWIN SP51Y Enterprise PCIe SSD offers 3 DWPD mixed-use endurance configurations to meet the demands of large-scale data storage applications.

Technologies

NVMe 2.0 & NVMe-MI 1.2	Multiple Namespaces	Multiple Sector Sizes	Atomic Write
Internal RAID	PLP	Data-Path E2E Protection	Thermal Throttling
Power Management	S.M.A.R.T.	Health Log	Telemetry Log

Applications

- Data Centers
- Cloud Computing
- Databases
- Servers
- AI Training

Specifications

Model Name	SP51Y		
Form Factor	2.5" U.2		
Protocol	NVMe 2.0 & NVMe-MI 1.2		
Interface	PCIe Gen5 x4		
Flash Type	3D eTLC		
DWPD (Drive Writes Per Day)	3 DWPD		
Capacity	3.2 TB	6.4 TB	12.8 TB
Sequential Read (Up to)	14,200 MB/s	14,200 MB/s	12,000 MB/s
Sequential Write (Up to)	6,000 MB/s	11,000 MB/s	9,000 MB/s
Random Read 4K (Up to)	3,300K IOPS	3,300K IOPS	3,300K IOPS
Random Write 4K (Up to)	510K IOPS	1,000K IOPS	900K IOPS
Random Read/Write Latency (µs)	70/6	70/6	70/6
4K Read Latency (µs)	60	60	60
4KWrite Latency (µs)	5	5	5
Read Power Consumption (Max.)	16 W	20 W	21 W
Write Power Consumption (Max.)	14 W	18 W	23 W
Operating Temperature	0°C to 70°C		
Storage Temperature	-40°C to 85°C		
Uncorrectable Bit Error Rate (UBER)	≤ 1 sector in 10^{17} bits read		
MTBF	>2,500,000 Hours		
Certifications	CE, FCC, RoHS, REACH, WEEE, HF, China RoHS		
Warranty	5-Year Limited		

Order Information

Capacity	Part Number	Power-Loss Protection Options
3.2 TB	CEAU2YAG110-3T2	Firmware-Based, Hardware-Based
6.4 TB	CEAU2YAG110-6T4	Firmware-Based, Hardware-Based
12.8 TB	CEAU2YAG110-12T8	Firmware-Based, Hardware-Based

1. Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2. Maintenance and future updates are required throughout the product lifecycle. Specifications are subject to change without notice.
3. The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4. Not all products are sold in all regions of the world.
5. As used for storage capacity, one megabyte (MB)= one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6. MTBF = Mean Time Between Failures based on internal testing using the Telcordia stress testing standard.
7. Please visit www.biwintechnology.com for warranty details in your region.
8. For more information, please contact sales@biwintech.com.

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