PBlaze5 910/916 NVMe^{TM} SSD

High-performance SSD for Application Acceleration

The PBlaze5 910/916 series adopts industry-leading, high-quality 64-layer 3D NAND, increasing single disk capacity to 15.36TB. Coupled with superb and sustainable performance and optimized energy efficiency, it provides high-performance green solutions for modern data centers.

Key Features

- Utilizing 64-layer 3D NAND, providing up to 15.36TB in single disk
- 1 million IOPS, 6GB/s throughput
- 30%~ 40% optimization of performance delivered per watt
- MTBF 2 million hours
- Accurate power management to watt
- TRIM speed up to 8TB/s
- Support up to 32 namespaces
- Support dual port

Applications & Workloads

- Database
- Searching, Indexing, CDN
- Cloud and Hyper-scale Computing
- High Performance Software-defined Storage
- Deep Learning and Big Data Analytics
- High Performance Storage System
- ERP, SAP HANA
- BOSS, Banking, Taxing
- High Frequency Trading
- Online Payment

Higher Density and Lower Cost with 64 Layer 3D NAND

The PBlaze5 910/916 utilizes leading 64-layer 3D NAND, providing up to 15.36TB on a single drive, achieving 40% capacity increase than its predecessor, the PBlaze5 700 11TB, which uses 32- layer 3D NAND. The high capacity feature enables PBlaze5 910 to improve rack density, reducing required rack numbers and saving space, further reducing operation energy costs for data centers.

30% ~ 40% Energy Efficiency Optimization

PBlaze5 910/916 series high-performance NVMe SSDs provides up to 6GB/s read throughput and 1 million read IOPS. In addition to consistent performance, PBlaze5 910/916 has a significant improvement in energy efficiency. Compared with its predecessor PBlaze5 700/900, PBlaze5 910 series can increase performance by 38% per watt, enabling data centers to delpoly more energy-efficient storage products.

Energy Efficiency = Performance / Watt, Delivered performance per watt

Guaranteed Data Reliability

PBlaze5 910/916 series supports AES 256 Data Encryption, Full Data Path Protection, and Enhanced Power Failure protection to protect critical enterprise applications.

Flexible and Accurate Power Consumption

PBlaze5 910/916 series supports 16 power modes settings, ranging from 10W to 25W, and power mode switching time of < 1ms, providing accurate and dynamic power control for enterprise users and storage systems.

Up to 8TB/s Enterprise TRIM Function

To meet the high security and high-performance requirements of cloud computing, the PBlaze5 910/916 supports enterprise-class TRIM function to ensure that the trimmed old data will not be accessed by new users, while, significantly improving performance and endurance. That the speed of TRIM is up to 8TB/s has a minimal impact on the business, realizing flexible TRIM strategy with upper applications.

Support 32 Multi-namespace Creation

PBlaze5 910/916 supports the creation of up to 32 namespaces for multi-service deployment scenarios. This allows for improved device utilization and sharing of device capacity as performance and capacity of single SSD device increases. Incorporated with operation system IO control technology, it can realize QoS management to each namespace according to various business requirements.

High-availability Dual Port

The PBlaze5 910/916 supports dual-port function which solves the single-path failure problem. The two ports can be accessed simultaneously, ensuring the continuity of data access and minimizing the impact on QoS of critical services.

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Notes:

[1] Performance may vary due to different system configurations and firmware version.

[2] Measurement is performed at Steady State follow SNIA SSS-PTS-E test specification.

[3] Average latency measured with 4KB random I/O pattern.

[4] DWPD, Drive Writes Per Day for 5 years.

PBlaze5 910/916 Series [1]	D910			C910			D916			C916		
User Capacity (TB)	3.84	7.68	15.36	3.84	7.68	15.36	3.2	6.4	12.8	3.2	6.4	12.8
Form Factor	2.5-inch U.2			HHHL AIC			2.5-inch U.2			HHHL AIC		
Interface	PCIe 3.0 x 4			PCIe 3.0 x 8			PCIe 3.0 x 4			PCIe 3.0 x 8		
Sequential Read (128KB)(GB/s)	3.5	3.5	3.5	5.6	6.0	5.3	3.5	3.5	3.5	5.6	6.0	5.3
Sequential Write(128KB)(GB/s)	3.2	3.5	3.5	3.2	3.5	3.5	3.2	3.5	3.5	3.2	3.5	3.5
Sustained Random Read (4KB) IOPS	835K	835K	835K	850K	1000K	970K	835K	835K	835K	850K	1000K	970K
Sustained Random Write (4KB) IOPS (Steady State) [2]	100K	135K	150K	100K	135K	150K	210K	300K	300K	210K	300K	300K
Latency Read/Write [3]	87 / 12 µs						88 / 11 µs					
Lifetime Endurance [4]	1 DWPD						3 DWPD					
UBER	$< 10^{-17}$											
MTBF	2 million hours											
Protocol	NVMe 1.2a											
NAND Flash Memory	3D eTLC NAND											
Operation System	RHEL, SLES, CentOS, Ubuntu, Windows Server, VMware ESXi											
Power Consumption	7~25 W											
Basic Feature Support	Power Failure Protection, Hot Pluggable, Full Data Path Protection, S.M.A.R.T											
Advanced Feature Support	TRIM, Multi-namespace, AES 256 Data Encryption, Fast Reboot, Crypto Erase, Dual Port											
Software Support	Open source management tool, CLI debug tool, OS in-box driver (Easy system integration)											
Certification	America: FCC		Europe: CE, RoHS, WEEE, REACH						China: BSMI			

For more information, please visit: www.memblaze.com

Phone: 400-650-7995

Email: contact@memblaze.com

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