DC1000B M.2 NVME SSD
Boot Drive for Enterprise Servers

Data Center DC1000B
Kingston's Data Center DC1000B is a high-performance M.2 (2280) NVMe PCIe SSD using the latest Gen 3.0 x 4 PCIe interface with 96-layer 3D TLC NAND. DC1000B offers data centers a cost-effective boot drive solution with the reassurance they are purchasing an SSD designed for server use. The DC1000B is ideally suited for use in high-volume rack-mount servers as an internal boot drive(s) as well as for use in purpose-built systems where a high-performance M.2 SSD is needed that includes on-board power loss protection (PLP).

Enterprise Data Center NVMe Boot SSD
M.2 NVMe SSDs are evolving within the data center providing efficiencies in booting servers to preserve valuable front-loading drive bays for data storage. Whitebox and Tier 1 Server OEMs are beginning to equip server motherboards with one or sometimes two M.2 sockets for boot purposes. While the M.2 form-factor was originally designed as a client SSD form-factor, its small physical size and high performance make it attractive for server use. Not all SSD are created equal and using a client SSD in a server application may result in poor inconsistent performance.

Applications
Boot drives are used primarily for booting an OS, but in many use cases today the boot drive has a secondary purpose; logging application data and/or configured as a high-speed local cache drive. Therefore, the DC1000B was designed with added endurance (0.5 DWPD for 5yrs) to handle the OS workload as well as the extra write workload of caching and data logging. In addition to being designed for long term reliability the DC1000B is designed to deliver enterprise level performance consistency and low latency features typically not found on client SSDs. Available in 240GB and 480GB capacities[1].

> › **M.2 (2280) NVMe PCIe SSD Gen 3.0 x 4, performance**
>
> › **NVMe for server boot workloads**
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> › **Application optimized capacities (240GB & 480GB) keep costs low**
>
> › **On-board (PLP) Power Loss Protection**
>
> › **Self-Encrypting Drive (SED) with AES-XTS 256bit**

FEATURES / BENEFITS

M.2 (2280) NVMe Performance — Incredible speeds of up to 2.6GB/s and 200K IOPS.

Optimized Server Boot Drive — Enhanced for boot workloads as well as caching and logging applications.

On-board (PLP) Power Loss Protection — Reduce the possibility of data loss and/or corruption on ungraceful power-off.

Maximize Drive Bays — Move boot drives internally frees up front loading drive bays for additional data storage.

SPECIFICATIONS

Form factor
M.2, 22mm x 80mm (2280)

Interface
PCIe NVMe Gen3 x4

Capacities[1]
240GB, 480GB

NAND
3D TLC

Self-Encrypting Drive (SED)
AES 256-bit Encryption

Sequential Read/Write
240GB – 2,200MBs/290MBs   480GB – 3,200MBs/565MBs

Steady-State 4k Read/Write[2]
240GB – 111,000/12,000 IOPS   480GB – 205,000/20,000 IOPS

Total Bytes Written (TBW)[3]
240GB – 248TBW   480GB – 475TBW

Latency Read (Avg)
161μs

Latency Write (Avg)
75μs

Power Loss Protection (Power Caps)
Yes

Enterprise SMART tools
Reliability tracking, usage statistics, SSD life remaining, wear leveling, temperature

Endurance
240GB — (0.5 DWPD/5yrs)[4]   480GB — (0.5 DWPD/5yrs)[4]

Power Consumption
240GB: Idle: 1.82W   Average Read: 1.71W   Average Write: 3.16W
   Max Read: 1.81W   Max Write: 3.56W

480GB: Idle: 1.90W   Average Read: 1.74W   Average Write: 4.88W
   Max Read: 1.81W   Max Write: 5.47W

Storage temperature
-40°C ~ 85°C

Operating temperature
0°C ~ 70°C

Dimensions
80mm x 22mm x 3.8mm

Weight
240GB – 8g   480GB – 9g

Vibration operating
2.17G Peak (7–800Hz)

Vibration non-operating
20G Peak (10–2000Hz)

MTBF
2 million hours

Warranty/support[5]
Limited 5-year warranty with free technical support

KINGSTON PART NUMBERS

DC1000B
SEDC1000BM8/240G
SEDC1000BM8/480G

The cryptographic functionalities, mentioned in the present section, are implemented in the firmware of the product. The cryptographic functions of the firmware can only be changed during the manufacturing process and cannot be changed by a regular user. The product is designed for installation by the user by following the step-by-step instruction from the installation user guide, supplied with the product, and, thereby, can be used without further substantial support of the supplier.

1. Some of the listed capacity on a Flash storage device is used for formatting and other functions and thus is not available for data storage. As such, the actual available capacity for data storage is less than what is listed on the products. For more information, go to Kingston's Flash Guide at kingston.com/flashguide.

2. Measurement taken once the workload has reached steady state but including all background activities required for normal operation and data reliability.

3. Total Bytes Written (TBW) is derived from the JEDEC Client Workload (JESD219A).

4. Drives Writes Per Day (DWPD) derived from the JEDEC Enterprise Workload (JESD219A).

5. Limited warranty based on 5 years or SSD "Life Remaining" which can be found using the Kingston SSD Manager (kingston.com/SSDManager). A new, unused product will show a wear indicator value of one hundred (100), whereas a product that has reached its endurance limit of program erase cycles will show a wear indicator value of one (1). See kingston.com/wa for details.