DATA CENTER DC1000B NVME SSD

Optimised M.2 NVMe Server Boot Drive with PLP

Data Centre DC1000B

Kingston's Data Centre DC1000B is a high-performance M.2 (2280) NVMe PCIe SSD using the latest Gen 3.0 x 4 PCIe interface with 64-layer 3D TLC NAND. DC1000B o□ers data centres a cost-e□ective boot drive solution with the reassurance that they are purchasing an SSD designed for server use. The DC1000B is ideally suited as an internal boot drive for use in high-volume rack-mount servers, as well as for use in purpose-built systems that require a high-performance M.2 SSD that includes on-board power loss protection (PLP).

Enterprise Data Centre NVMe Boot SSD

M.2 NVMe SSDs are evolving within the data centre, providing e□ciencies 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 con□gured as a high-speed local cache drive. The DC1000B was therefore designed with added endurance (0.5 DWPD for 5 years) to handle the OS workload as well as the extra write workload of caching and data logging. In addition to being developed 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
- Application-optimised capacities (240GB & 480GB) keep costs low
- On-board (PLP) power loss protection
- Self-encrypting drive (SED) with AES-XTS 256bit

more >>

FEATURES/BENEFITS

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

Optimised 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.

Maximise drive bays — Moving 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 levelling, 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

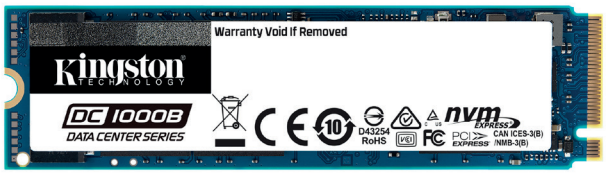
Weight
240GB – 8g 480GB – 9g

Vibration operating
2.17G peak (7-800Hz)

Vibration non-operating
20G peak (10-2,000Hz)

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 functions mentioned in the present section are implemented in the firmware of the product. The cryptographic functions of the firmware can be changed only during the manufacturing process and cannot be changed by a standard user. The product is designed for installation by the user in accordance with the step-by-step instructions in the installation user guide supplied with the product. It can therefore be used without further substantial support from the supplier.

1. Some of the listed capacity on a Flash storage device is used for formatting and other functions and is thus 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 a 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.