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DC600M SSD

Enterprise Class Mixed-Use SSD with Power Loss Protection

Kingston's DC600M SSD is a 4th generation data center SATA 3.0, 6Gbps SSD with 3D TLC NAND intended for "mixed use" workloads. The DC600M is suited for use in high-volume rack-mount servers and includes hardware based on-board PLP. Via power loss capacitors, DC600M protects data against unexpected power failure to reduce the possibility of data loss and ensure that the drive will successfully re-initialize on the next power-up of the system. DC600M is designed to deliver latency and IOPS consistency for system integrators, hyperscale data centers, and cloud service providers.

Capacities available from 480GB-7680GB¹ to meet your data storage requirements.

- › Hardware-based power loss protection
- › Latency and IOPS consistency
- › AES 256-bit self-encrypting drive
- › Capacities up to 7680GB¹

FEATURES / BENEFITS

Hardware-based PLP — Power loss capacitors to protect user data against unexpected power loss and enhance performance.

Delivers excellent Quality of Service (QoS)² — Optimized performance predictability to hit Service-level agreements (SLAs).

AES 256-bit Self Encrypting Drive — Built in protection to safeguard important data.

Capacities up to 7680GB — Upgrade and manage storage with capacities up to 7680GB¹.

SPECIFICATIONS

Form Factor
2.5"

Interface

SATA Rev. 3.0 (6Gb/s) – with backwards capability to SATA Rev 2.0 (3Gb/s)

Capacities¹

480GB, 960GB, 1920GB, 3840GB, 7680GB

NAND

3D TLC

Self-Encrypting Drive (SED)

AES 256-bit Encryption

Sequential Read/Write

480GB – 560MBs/470MBs

960GB – 560MBs/530MBs

1920GB – 560MBs/530MBs

3840GB – 560MBs/530MBs

7680GB – 560MBs/530MBs

Steady State 4k Random Read/Write

480GB – 94,000/41,000 IOPS

960GB – 94,000/65,000 IOPS

1920GB – 94,000/78,000 IOPS

3840GB – 94,000/59,000 IOPS

7680GB – 94,000/34,000 IOPS

Quality of Service (Latency)^{3,4,5}, (99.999) Read/Write

480GB – 180/110 uSec

960GB – 3840GB – 200/300 uSec

7680GB – 240/170 uSec

Typical Latency - Read/Write^{3,4,5}

<200 µs / <30 us

Hot-Plug Capable

Static and Dynamic Wear Leveling

Enterprise SMART tools

Reliability tracking, usage statistics, life remaining, wear leveling, temperature

Hardware-based Power Loss Protection Endurance^{6,7}

480GB – 876TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

960GB – 1752TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

1920GB – 3504TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

3840GB – 7008TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

3840GB – 7008TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

7680GB – 14016TBW, 1 DWPD (5 years), 1.66 DWPD (3 years)

Power consumption

Idle: 1.30W

Average: 1.45W

Max Read: 1.6W

Max Write: 3.6W

Storage temperature

-40°C ~ 85°C

Operating temperature

0°C ~ 70°C

Dimensions

69.9mm x 100mm x 7mm

Weight

92.34g

Vibration operating

2.17G Peak (7–800Hz)

Vibration non-operating

20G Peak (10–2000Hz)

MTBF

2 million hours

Vibration non-operating

20G Peak (10–2000Hz)

Warranty/support⁸

Limited 5-year warranty with free technical support



KINGSTON PART NUMBERS

DC600M SSD
SEDC600M/480G
SEDC600M/960G
SEDC600M/1920G
SEDC600M/3840G
SEDC600M/7680G

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 Memory Guide at kingston.com/flashguide

2. Quality of Service (QoS) of an SSD refers to the consistency and predictability of Latency (response time) and IOPS (I/Os Per Second) performance while servicing a read/write workload. QoS metrics demonstrate that, given a worst-case workload tested over a period of time, an SSD's latency and IOPS profiles stay within a specified range without having unexpected outliers causing a sudden drop in application performance.

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

4. Based on 1920GB capacity.

5. Workload based on FIO, Random Aligned 4KB QD=1 workload. Quality of Service is measured as the time taken for 99.999 percentile of commands to finish the round-trip from host to drive and to host. Typical Latency is measured as the time taken for 99.999 percentile of commands to finish the round-trip from host to drive and to host.

6. Total Bytes Written (TBW) is derived from the JEDEC Enterprise Workload (JESD219A).

7. Drives Writes Per Day (DWPD).

8. Five Year Conditional SSD Warranty based on which of the following events occurs first: (i) five (5) years from the date of purchase by the original end user customer; (ii) when the usage of a SATA SSD as measured by Kingston's implementation of the SMART attribute 231, labeled as "SSD Wear Indicator", reaches a normalized value of one (1) as indicated by Kingston's SSD Manager ("KSM").



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