kingston.com/ssd

DATA CENTER DC450R SSD

Read-centric SSD with exceptional I/O and latency predictability

Kingston's Data Centre 450R (DC450R) is a high-performance 6Gbps SATA SSD with 3D TLC NAND, designed for read-centric application workloads. This streamlined SSD delivers on performance while providing exceptional I/O and latency predictability, a requirement now amongst data-centre-class SSDs. Built to Kingston's strict QoS requirements, the DC450R is designed to ensure performance consistency over a wide range of read-intensive and read-caching workloads.

Enterprise Data Centre SSD
Delivering your business demands for 24/7 uptime and reliability. Kingston's DC450R presents a specifically focused feature set that enables data centres to select the most cost effective SSD for their workload(s). Businesses require results in order to deliver on products, solutions and service level agreements (SLAs). Kingston's DC450R is designed to deliver on these expectations.

Read-centric SSD
A strategically optimised SSD designed with a streamlined, focused feature set for read-centric applications. This enables data centres to select an SSD tailored for workloads without overspending on more expensive write-intensive SSDs. It delivers I/O speeds and response times (latency) to ensure high levels of performance in the working application and downstream at the user interface.

Applications
It is ideal for Content Delivery Networks (CDN), edge computing applications and a wide array of software-defined storage architectures. DC450R gives system builders and cloud providers a high-performance, low-cost SSD standard that they can count on. Capacities[1] from 480GB, 960GB, 1.92TB, 3.84TB, 7.68TB.
- Content Delivery Networks (CDN)
- Edge computing
- Cloud service providers
- High-speed databases
- SQL server reporting services (SSRS)

› **Read-centric design for performance in high-read applications**

› **Predictable random I/O performance and latencies**

› **Configurable over-provisioning**

› **Streamlined performance to strategically optimise business needs**

more ››

FEATURES/BENEFITS

Read-centric applications — Performance consistency in edge computing and CDN applications.

Reduce application latencies — Database and web-based applications leverage predictable I/O and latency performance.

Data integrity protection — ECC protection with advanced read/disturb management safeguards against data corruption; end-to-end data protection.

Strategically optimised — Focused feature set enables data centres to select the most cost-effective SSD for their workload(s).

SPECIFICATIONS

Form factor
2.5"

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

Capacities[1]
480GB, 960GB, 1.92TB, 3.84TB, 7.68TB

NAND
3D TLC

Self-Encrypting Drive (SED)
XTS-AES 256-bit encryption

Sequential read/write
480GB – 560MBs/510MBs   960GB – 560MBs/530MBs
1.92TB – 560MBs/530MBs   3.84TB – 560MBs/525MBs
7.68TB – 560MBs/504MBs

Steady-state 4k read/write
480GB – 99,000/17,000 IOPS   960GB – 98,000/26,000 IOPS
1.92TB – 99,000/28,000 IOPS   3.84TB – 99,000/26,000 IOPS
7.68TB – 99,000/19,000 IOPS

Quality of service (latency)[2, 3, 4]
TYP read/write: <500 μs / <2 ms

Hot-plug capable

Static and dynamic wear levelling

Power loss protection (power caps)
no

Enterprise SMART tools
reliability tracking, usage statistics, SSD life remaining, wear levelling, temperature

Endurance DC450R
480GB — 285TB (0.3 DWPD/5yrs)[5] (0.5 DWPD/3yrs)[5]
960GB — 582TB (0.3 DWPD/5yrs)[5] 5 (0.5 DWPD/3yrs)[5]
1.92TB — 1301TB (0.3 DWPD/5yrs)[5] (0.6 DWPD/3yrs)[5]
3.84TB — 2823TB (0.4 DWPD/5yrs)[5] (0.6 DWPD/3yrs)[5]
7.68TB — 5063TB (0.3 DWPD/5yrs)[5] (0.6 DWPD/3yrs)[5]

Power consumption

480GB: Idle: 1.05W	Average read: 1.25W	Average write: 3.03W
	Max read: 1.25W	Max write: 4W
960GB: Idle: 1.15W	Average read: 1.3W	Average write: 3.18W
	Max read: 1.3W	Max write: 4.25W
1.92TB: Idle: 1.22W	Average read: 1.42W	Average write: 3.44W
	Max read: 1.42W	Max write: 4.5W
3.84TB: Idle: 1.3W	Average read: 1.48W	Average write: 3.93W
	Max read: 1.48W	Max write: 5.5W
7.68TB: Idle: 1.38W	Average read: 1.5W	Average write: 4W
	Max read: 1.5W	Max write: 5.5W

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

Warranty/support[6]
limited 5-year warranty with free technical support

KINGSTON PART NUMBERS

DC450R (Read-Centric)
SEDC450R/480G
SEDC450R/960G
SEDC450R/1920G
SEDC450R/3840G
SEDC450R/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 Guide at kingston.com/flashguide.

2. Workload based on FIO, random 4KB QD=1 workload, measured as the time taken for 99.9 percentile of commands to finish the round-trip from host to drive and to host.

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

4. Based on 960GB capacity.

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

6. 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.

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