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Datasheet

ExaDrive® DC

Highlights

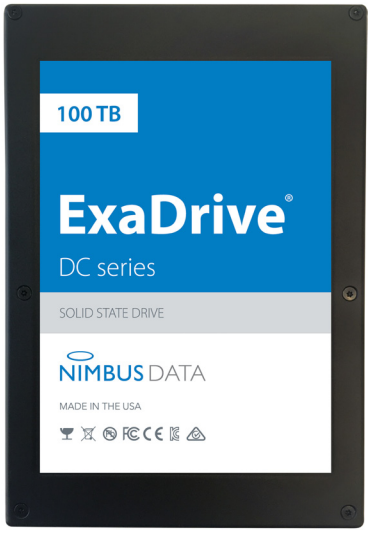
- 100 TB, 50 TB, 32 TB, and 16 TB capacities
- SATA-3 or SAS-2 6.0 Gbps interface
- 3.5” industry standard form factor
- Unlimited write endurance for 5 years
- 8W/16W power consumption (idle/active)
- Up to 114,000/105,000 IOps reads/writes
- Up to 500/460 MBps reads/writes

Applications & Workloads

- Artificial intelligence
- Technical computing
- Digital imaging/media
- Cloud infrastructure
- IoT and edge storage

Advantages

- World’s highest capacity SSD
- World’s most energy efficient SSD
- Only SSD with unlimited write endurance for 5 years
- 6x more capacity than the largest HDD
- Uses 85% less power, cooling, and space
- 42% lower TCO over 5 years than competing SSDs
- Plug-and-play with existing 3.5” HDD slots



The Premier Enterprise SSD for Big Data Workloads

Artificial intelligence, scientific research, cloud computing, and ever-richer digital content demand massive storage capacity and exceptional performance. At the same time, organizations are grappling with growing power, space, and cooling costs. Compounding the problem is the massive amount of data being generated at the edge, creating new challenges in data transport and migration. As the world’s highest capacity and highest density SSD, ExaDrive DC is purpose-built to meet these challenges. ExaDrive DC offers capacity, energy efficiency, and endurance unrivaled in the market, thanks to an innovative, patent-pending architecture.

With capacities ranging from 16 TB to 100 TB, ExaDrive DC offers up 12x the capacity of the next largest SATA SSD on the market while consuming 85% less power per TB. With its industry-standard 3.5” form factor, ExaDrive DC is plug-and-play compatible with virtually all existing SATA and SAS-based servers and JBODs, preserving existing investments and facilitating HDD-to-flash migration. With enterprise-grade flash, multiple ECC engines, and end-to-end data protection, ExaDrive DC provides unlimited write endurance for 5 years, a first-and-only in the industry, giving you peace of mind. ExaDrive DC packs massive capacity in a small package, ideal for IoT applications, mobile and tactical use cases, e-discovery, and cloud migration.

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Direct Savings

- Unlimited 5 year endurance
- Space savings
- Power reduction
- Higher utilization rates
- Cooling savings
- Improved storage efficiency

Indirect Benefits

- Reduced software costs
- Reduced server costs
- Increased scalabily
- Chassis standardization
- Superior reliability
- Performance gains

Unlimited 5 Year Endurance
Only ExaDrive DC offers unlimited 5 year endurance, meaning lower TCO than other endurance-limited SSDs.

Space Savings
At 100 TB, ExaDrive DC enables 6:1 space reduction versus 16 TB HDDs, reducing overall rack needs by 88%.

Power Reduction
ExaDrive DC draws as little as 85% less power per TB than nearline HDDs or competing SSDs, reducing TCO.

Higher Utilization Rates
Faster IO means utilization rates can be improved to 90%+ versus typical 60% with HDDs, an increase of 50%.

Cooling Savings
ExaDrive DC requires up to 75% fewer BTU's of cooling per TB than nearline HDDs or competing SSDs.

Improved Storage Efficiency
Unlike HDDs, SSDs are fast enough to support inline dedupe/compression, reducing storage cost even further.

Reduced Software Costs
ExaDrive DC and its high capacity allow you to reduce the number of servers, reducing software licensing costs.

Reduced Server Costs
High capacity SSDs reduce server and enclosure count (and cabling) while improving CPU efficiency.

Increased Scalability
ExaDrive DC lets you maximize storage capacity and scalability while reducing data center costs.

Chassis Standardization
ExaDrive DC is 3.5" SATA/SAS, just like HDDs, so you can avoid costly server and JBOD hardware upgrades.

Superior Reliability
ExaDrive DC has no moving parts, provides unlimited 5 year endurance, and delivers faster RAID rebuilds.

Performance Gains
With 98% lower latency than nearline HDDs, time-to-data is slashed, improving the user experience.

ExaDrive DC series Specifications

	SERIAL ATA				Serial Attached SCSI			
	EDDCT016	**EDDCT032**	**EDDCT050**	**EDDCT100**	**EDDCS016**	**EDDCS032**	**EDDCS050**	**EDDCS100**
Basics								
Capacity	16 TB	32 TB	50 TB	100 TB	16 TB	32 TB	50 TB	100 TB
Interface	SATA-3 (6.0 Gbps)				SAS-2 dual-port (for HA)			
Form Factor	3.5" (LFF)							
Reliability								
Endurance	Unlimited DWPD for 5 years							
MTBF (hours)	2.5 million hours							
Limited Warranty	5 years							
Performance								
Latency	0.1 ms	0.1 ms	0.1 ms	0.05 ms	0.2 ms	0.2 ms	0.2 ms	0.15 ms
Random Read (4 KB)	97K IOps	97K IOps	97K IOps	114K IOps	50K IOps	50K IOps	50K IOps	52K IOps
Random Write (4 KB)	91K IOps	91K IOps	91K IOps	106K IOps	25K IOps	25K IOps	25K IOps	26K IOps
Sequential Read	500 MBps	500 MBps	500 MBps	500 MBps	450 MBps	450 MBps	450 MBps	450 MBps
Sequential Write	460 MBps	460 MBps	460 MBps	460 MBps	260 MBps	260 MBps	260 MBps	260 MBps
Power								
Active Read Power	12.1 W	12.2 W	12.1 W	15.2 W	12.1 W	12.2 W	12.1 W	15.2 W
Active Write Power	13.1 W	13.2 W	13.8 W	16.8 W	13.1 W	13.2 W	13.8 W	16.8 W
Idle Power	6.8 W	7.2 W	7.2 W	11.1 W	7.0 W	7.4 W	7.4 W	11.3 W
Active Read Power / TB	0.76 W	0.38 W	0.24 W	0.15 W	0.76 W	0.38 W	0.24 W	0.15 W
Active Write Power / TB	0.82 W	0.41 W	0.28 W	0.17 W	0.82 W	0.41 W	0.28 W	0.17 W
Idle Power / TB	0.43 W	0.23 W	0.14 W	0.11 W	0.44 W	0.23 W	0.14 W	0.11 W
Additional Details								
Temperature (operating)	0 - 60 degrees C							
Size (L x W x H)	147.0 mm x 101.8 mm x 26.1 mm							
Weight	440 grams (0.97 lb)		533 grams (1.18 lb)		445 grams (0.98 lb)		538 grams (1.19 lb)	

Comparison of Enterprise SATA SSDs

	NIMBUS DATA	intel	KIOXIA	Micron	SAMSUNG	SEAGATE
	ExaDrive DC	**D3-S4610**	**HK6-V**	**5300 MAX**	**SM883**	**Nytro 1551**
Basics						
Form Factor	3.5”	2.5”	2.5”	2.5”	2.5”	2.5”
Capacity	100 TB, 50 TB, 32 TB, 16 TB	7.68 TB, 3.84 TB, 1.92 TB, 960 GB	3.84 TB, 1.92 TB, 960 GB	3.84 TB, 1.92 TB, 960 GB	3.84 TB, 1.92 TB, 960 GB	3.84 TB, 1.92 TB, 960 GB
Efficiency						
Density (TB / 42 U)	Up to 100,000 TB	Up to 6,912 TB	Up to 3,456 TB	Up to 3,456 TB	Up to 3,456 TB	Up to 3,456 TB
Active Power / TB	As low as 0.16 W	0.59 W	1.43 W	0.91 W	0.96 W	0.91 W
Idle Power / TB	As low as 0.08 W	0.21 W	Not disclosed	Not disclosed	0.36 W	0.31 W
Reliability						
Endurance	Unlimited for 5 yr	3 DWPD / 5 yr	3 DWPD / 5 yr	2.5 DWPD / 5 yr	3 DWPD / 5 yr	1 DWPD / 5 yr
MTBF	2.5 million hours	2.0 million hours	2.0 million hours	3.0 million hours	2.0 million hours	2.0 million hours
Performance						
Random Read (4 K)	Up to 114K IOps	90K IOps	84K IOps	95K IOps	97K IOps	94K IOps
Random Write (4 K)	Up to 105K IOps	35K IOps	58K IOps	34K IOps	29K IOps	41K IOps
Sequential Read	500 MBps	550 MBps	550 MBps	540 MBps	540 MBps	564 MBps
Sequential Write	460 MBps	510 MBps	530 MBps	520 MBps	520 MBps	536 MBps

Ordering Information

Part #	Description
EDDCT016 | EDDCS016	ExaDrive DC 3.5” 16 TB SSD (SATA-3 or SAS-2 interface)
EDDCT032 | EDDCS032	ExaDrive DC 3.5” 32 TB SSD (SATA-3 or SAS-2 interface)
EDDCT050 | EDDCS050	ExaDrive DC 3.5” 50 TB SSD (SATA-3 or SAS-2 interface)
EDDCT100 | EDDCS100	ExaDrive DC 3.5” 100 TB SSD (SATA-3 or SAS-2 interface)

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