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DATA SHEET

Intelligent Storage System

Exos PROTECT EP5U84

Seagate® Exos® PROTECT EP5U84 advanced storage array is a petabyte-scale, rack-mounted block storage enclosure with advanced data protection and software value delivering super efficient mass-capacity storage for conventional data centres and cloud infrastructure.

Product Highlights

- ADAPT erasure code data protection software
- Deliver unfettered data access with dual redundant controllers capable of achieving superior sequential read and write performance
- Expand a data centre seamlessly with flexible SSD, hard drive and hybrid configuration options
- Efficiently manage hot and cold data with real-time data tiering
- Save space and maximize capacity by stacking four enclosures for 336 drives of data storage

Key Advantages

Reliable and Self-healing: Exos PROTECT EP5U84 features advanced distributed autonomic protection technology (ADAPT), an erasure code data protection software, to dramatically reduce array rebuild overhead. Field-proven design with five nines (99.999%) availability.

Built for speed and resilience: Up to 2× the performance of the previous generation with redundant active-active controllers powered by the ASIC-based VelosCT controller architecture. Streamline your overhead with improved throughput management and recovery.

Easy to set up, maintain and expand: All system components — enclosure, controller, firmware and drives — are developed and optimised by our engineers to work together seamlessly. The modular architecture makes components interchangeable between systems, and upgrades are simple due to common FRUs, PCMs, controllers and software.

Maximum Capacity and Consistent High Performance: Exos PROTECT EP5U84 supports up to 84 drives in a single 5U enclosure with high availability and superior sequential read and write throughput. Easily expand to accommodate data proliferation by connecting up to four 5U84 enclosures together for a total of 336 drive slots.

Build In Security at the Foundation of the Data Life Cycle: Protect the most valuable business assets with Seagate Secure[superscript™] data security features and intelligent firmware — such as SFTP, SED support and administrator access controls — that provide built-in security measures for reliable and safe file access, transfer and management.

Reduce power consumption: 80 PLUS Titanium and 80 PLUS Platinum power supply options with certified adaptive cooling technology.

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Specifications	
Controller Model	Seagate 4006 VELOSCT (2 per enclosure)
Controller Performance	Up to 12 GB/s read throughput, 10 GB/s write throughput, 725K IOPS (Random Read)
Advanced Software Features	Auto-tiering, Snapshots, Asynchronous Replication
Base Array Software Features	Virtual pools, Thin provisioning, ADAPT, SSD read cache, Encryption
High-Availability Features	Redundant hot-swap controllers, Redundant hot-swap drives, fans, power, Dual power cords, Hot standby spare, Automatic failover, Multi-path support
Device (Drive) Support	SAS HDD, NL-SAS HDD, SAS SSD (2.5 or 3.5 Form Factors)
Data Protection	Seagate ADAPT and RAID levels supported: 0, 1, 5, 6, 10
Self Healing Technology	Autonomous Drive Regeneration (ADR)
System Maximum Expansion	2U12 Arrays, Up to 12 drives per enclosure, 10 enclosures maximum including the master, totalling 120 Drives 2U24 Arrays, Up to 24 drives per enclosure, 10 enclosures maximum including the master, totalling 240 Drives 5U84 Arrays, Up to 84 drives per enclosure, 4 enclosures maximum including the master, totalling 336 Drives
Physical	5U: Height: 222.3 mm/8.75 in | Width: 444.5 mm/17.5 in | Depth: 981 mm/38.63 in | Width w/ear mounts: 483 mm/ 19.01 in | RBOD weight: 82 kg/180 lb | RBOD weight (with drives): 135 kg/298 lb | EBOD weight: 80 kg /175 lb | EBOD weight (with drives): 130 kg/287 lb
Hosts	
External Ports	4 per Controller, 8 per System
Fibre Channel Models	Host speed: 32/16 Gb/s Fibre Channel, Interface type: SFP+/SFP28
iSCSI Models	Host speed: 10 Gb/s, 25 Gb/s iSCSI, Interface type: SFP+/SFP28
Ethernet Models	10GBASE-T (auto-negotiation to 1Gb)
SAS Models	Host speed: 12 Gb/s, 6 Gb/s SAS, Interface type: HD Mini-SAS
System Configuration	
System Memory	48 GB per system
Volumes per System	1,024
Cache	Mirrored cache, Supercapacitor cache backup, Cache backup to flash – non-volatile
Management	
Interface Types	10/100/1000 Ethernet, Micro USB
Protocols Supported	SNMP, SSL, SSH, SMTP, HTTP(S), REDFISH
Management Consoles	Web GUI, CLI
Management Software	Seagate Systems storage management console, Remote diagnostics, Non-disruptive updates, Volume expansion
Power Requirements — AC Input	
Input Power Requirements	200 VAC - 240 VAC, 50 Hz-60 Hz
Max Power Output per PSU	2200W
Environmental/Temperature Ranges	
Operating/Non-operating Temperature	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / –40°C to 70°C (–40°F to 158°F)
Operating/Non-operating Humidity	–12°C DP and 8% RH to 21°C DP and 80% RH, max DP 21°C/5% to 100% non-condensing
Operating/Non-operating Shock	3 Gs, 11 ms, half sine pulses/15 Gs, 7 ms, half sine pulses
Operating/Non-operating Vibration	0.18 Gs rms 6 Hz to 500 Hz random/0.5 (Z-axis) and 0.25 (X&Y-axis) Gs rms 6 Hz to 200 Hz random
Standards/Approvals	
Standard Marks/Approvals	United States, Canada, European Union (EU), Australia/New Zealand, Japan, China (PRC), Russia, Mexico, Germany, South Korea, Taiwan, India
Safety Certifications	UL 62368-1 | CAN/CSA-C22.2 No.62368-1- 19 | CE to EN 62368-1 | CB IEC 62368-1 | Power Supplies CCC & BIS
Emissions (EMC)	FCC CFR 47 Part 15 Subpart B Class A | ICES/NMB-003 Class A | EN 55032:2015 Class A |AS/NZS CISPR 22/CISPR 32 Class A | VCCI Class A | KN 32/KN 35 Class A | CNS 15936 Class A
Harmonics & Flicker	EN 61000-3-2 | EN 61000-3-3
Immunity	EN 55032 | KN 32/KN 35
Environmental Standards	The RoHS Directive (2011/65/EU) | The WEEE Directive (2012/19/EU) | The REACH Directive (EC) No. 1907/2006 and WFD Directive (EU) 2018/815
Power Supply Units	
Power Supply	Ecodesign (Part UD-PCM2-2200-AC/ Model SGT-S-2200ADE00) – Titanium Power Efficiency: 230 VAC/50 Hz 10% Load = >90%; 20% Load =>94%; 50% Load = >96%; 100% Load =>91% Power Factor Conditions (PFC): 10% Loading = 0.80; 20% Loading = >0.95; 50% Loading = >0.95; 100% Loading = >0.95
Power Supply	Ecodesign (Part UD-PSU01-2200-AC/ Model FS2K2HS180-xx) – Platinum Power Efficiency: 230 VAC/50 Hz 10% Load = >81%; 20% Load =>89%; 50% Load = >93%; 100% Load =>90% Power Factor Conditions (PFC): 10% Loading = 0.80; 20% Loading = >0.90; 50% Loading = >0.95; 100% Loading = >0.95

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