PRODUCT BRIEF | Enterprise SAS-4 High Density, High Availability JBOD

VDS41022

FUTURE OF STORAGE EXPANSION

Viking Enterprise Solutions (VES) VDS41022 expansion enclosure is a high-density SAS-4 data storage solution that packages 102, 3.5-inch HDDs running at 12 Gb/s SAS with two active 24 Gb/s I/O modules. The VDS41022 JBOD enclosure offers best in-class performance and capacity, space-saving density, "green" energy efficiency, and high-availability of all active components. The VDS41022, with its CMA (cable management arm), fits into an industry standard 19-inch, 1.0 meter deep rack.

The VDS41022 expansion enclosure was designed to enable vertical scaling of storage capacity in order to match the needs of a wide range of enterprise-grade storage applications requiring full redundancy. The VDS41022 enables the expansion of external storage in file, block and object storage format through a standard SAS-4 24Gb/s interface between the JBOD and any standard storage server. The VDS41022 provides leading-edge density, capacity, disruptively priced, and offers a reduced footprint for even the largest of today's most demanding data centers.
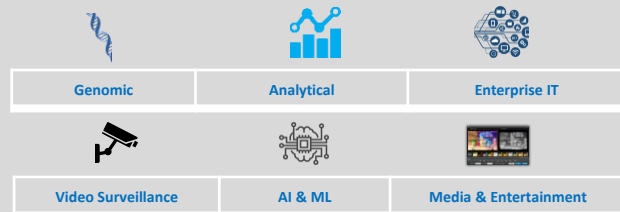
FEATURES

- Beyond 2PB RAW capacity in a 4U form factor
- Turnkey, fully tested and integrated with reliable Enterprise HDD's from Toshiba
- Dual I/O modules provide true failover
- Multiple drive partitioning/split bus zoning configurations
- Hot-pluggable drives, I/O controllers, fan modules and redundant, high-efficiency and advanced power modules
- Four 4-wide mini-SAS HD host or expansion ports per I/O module
- Modular design increases product configuration flexibility
- SAS point-to-point connectivity isolates drive failures, increasing reliability and fault tolerance, while improving performance
- SAS daisy-chain expansion to additional storage arrays and other SFF-8674 SAS compliant host/expansion ports
- Single SAS 4.0 I/O module configuration is available, featuring four 4-wide, 24 Gb/s mini SAS HD ports and support for 12 Gb/s-6 Gb/s SAS and 6 Gb/s SATA drives.

The VES Advantage

VES offers a broad portfolio of product offerings, including:

- Leading edge performance SSD arrays, supporting SAS and NVMe technologies
- Leading edge high performance and high availability solutions
- Industry leading cold storage and object storage solutions purpose-built compute and storage platforms

Target Applications

Genomic	Analytical	Enterprise IT
Video Surveillance	AI & ML	Media & Entertainment

Provides exceptional performance, scalability and thermal management for today's high density storage environments

High density SAS-4 JBOD, with 12 Gb/s connection to 102 LFF drives and 24 GB/s SAS-4 to rear mini-SAS I/0 in a 4U design.

AC Power

- Input voltage 200-240V AC
- Input frequency: 50-60 Hz
- Power supplies: 2 (n+1)
- Input current: 9.4 amps max @ 200V AC per power supply
- Maximum system
- continuous DC output power rating: 1600W

Hot-swappable Components

- Two JBOD IO modules
- Two AC to DC power modules
  - Two 1600W power supplies
  - Two +5V regulators per enclosure/system provide hard drive power
- Two independent AC power inputs
- Up to 102 drives in the main bay

Firmware

- SCSI enclosure services (SES) 3.0-based firmware

Drive Partitioning/ Split Bus Zoning

- Drive array can be zoned in four pre-defined zoning configurations supported by the I/O modules
- Additional zoning configurations can be developed upon request

Capacity

- 102-drive capacity per 4U enclosure
  - 102 drive slots compatible with LFF or SFF drives
  - 12Gb/s supported on all drive slots

Failure Notifications

- SCSI enclosure services (SES-3.0) over in-band interface and via system status and FRU LEDs

Host Expansion Interfaces

- Two SAS-4 JBOD I/O modules, each with 4-wide, SFF-8674, 24 Gb/s mini SAS HD expansion ports

Operating Environment

- Temperature: 5° to 35°C
- Relative humidity: 20% to 80% (non-condensing)
- Altitude: -200 ft to 10,000 ft
- Shock: 5G at 11ms, half sine wave pulse
- Vibration: 0.10G at 5 Hz to 500 Hz
- Acoustics (declared sound power): 92 dB with I/O modules; at idle/active operation tested to ISO 7779

Non-operating Environment

- Temperature: 5°C to 45°C
- Relative humidity: 10% to 90% (non-condensing)
- Altitude: -200 ft to 10,000 ft
- Shock: 10G at 11ms, 1/2 sine wave pulse
- Vibration: 0.5G at 5 Hz to 500 Hz

Disk Drives

- Form factor: 3.5-inch HDDs or 2.5-inch SSD SAS drives
- Interface: 12Gb/6Gb SAS; 6Gb SATA
- 10W per drive

Safety Standards

- UL 60950
- CSA 22.2-950

Quality Standards

- Manufactured under an ISO 9002 quality system

Environment Protection

- RoHS & WEEE compliant

4U Rackmount Enclosure

- Dimensions: 6.9 in. H X 17.2 in. W X 39.4 in. D (17.2 cm H X 43.8 cm W X 100.0 cm D)
- Weight with drives: 275.0 lbs. (124.7 kg) max
- Standard rackmount rail kit with optional cable management system

Electromagnetic Emissions & Immunity Standards

- CE Mark
- EN55022: 2010
- EN61000 3-2:2014
- EN61000 3-2:2013
- FCC Class A
- Canadian IECS-003

Monitoring & Reporting

- Monitors temperature, power, cooling (including fan speed control), disk drives, and I/O modules
- In-band reporting of all FRU and chassis serial numbers, part numbers and revisions

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