



PRODUCT BRIEF | SAS-4 High Density, 60 LFF drives, High Availability JBOD

VDS4606

Performance-oriented Enterprise Class Storage Enclosure

Viking Enterprise Solutions' VDS4606 JBOD enclosure is a high-density SAS-4 data storage solution that packages 60, 3.5-inch HDDs running at 12 Gb/s SAS with two active 24 Gb/s I/O modules. The VDS4606 JBOD enclosure offers best in-class performance and capacity, space-saving density, "green" energy efficiency. The VDS4606 fits into an industry standard 19" rack / 1 meter deep. Its flexible configuration allows it to be deployed in a variety of applications.

Applications Use Cases

The VDS4606 JBOD Enclosure is designed to enable the scaling of storage capacity in order to match the needs of a wide range of enterprise-grade storage applications requiring full redundancy. The VDS4606 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 VDS4606 provides density, capacity, \$/GB, and offers a reduced footprint for even the largest of today's most demanding data centers.

FEATURES

- ▶ Full-featured robust 24Gb/sec high-performance SAS 4.0 storage enclosure
- ▶ Operation with either single I/O controller or dual I/O controllers for redundant failover
- ▶ Multiple Drive partitioning/split-bus zoning modes
- ▶ Hot-pluggable I/O controller(s) and dual redundant, high efficiency, advanced power supplies
- ▶ SFF-8674 24Gb/sec SAS 4.0 host & expansion ports or expansion of up to 100Gb/s network interface
- ▶ Flexibility to choose SAS or SATA drives to achieve the right performance, reliability & price
- ▶ Modular design increases product configuration flexibility
- ▶ SAS point-to-point connectivity isolates drive failures, increasing reliability & fault tolerance & improving performance

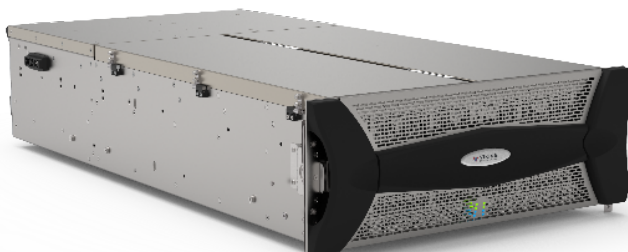
The VES Advantage

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

VES provides an accelerated time-to-market server and product needs, providing the opportunity to leverage a best-in-class portfolio of proven product designs.

Customers can rely on our industry-leading design team and a world class electronics manufacturing services organization.

High Density SAS 4.0 Connected Enclosure supports 60 Hard Drives in 4U. Provides exceptional performance and scalability for high density storage environments.



VDS4606

Host/Expansion Interfaces

- ▶ One or two SAS 4.0 I/O controller modules per system, each I/O module supporting 4x 24Gb/sec SAS 4.0 SFF-8674 ports

Capacity

- ▶ 60 drive capacity per 4U enclosure

Firmware

- ▶ SCSI Enclosure Services (SES) 3.0

I/O Controller Models

- ▶ Dual redundant 24Gb/sec SAS 4.0 JBOD I/O modules, each with support for storage expansion enclosures

4U Rackmount Enclosure

- ▶ Dimensions:
7.0 in. H x 16.6 in. W X 34 in. D (17.7 cm H X 40.1 cm W X 86.4 cm D)
- ▶ Weight with drives: 220 lbs (100 kg) max
- ▶ Standard Rackmount Rail Kit with integrated cable management

Drive Partitioning/Split-Bus Zoning

- ▶ Controller module can be zoned in four pre-defined zoning schemes
- ▶ Additional zoning schemes can be developed upon request

Redundant Hot-Swappable Components

- ▶ Up to two SAS 4.0 JBOD I/O controller modules
- ▶ Two AC power supplies
- ▶ Two Regulator modules to provide hard drive power
- ▶ Two independent AC power inlets
- ▶ Up to 60 Drives

Disk Drives

- ▶ 60 independent point-to-point connections to each SAS or SATA disk drive with dual-port access & failover by each controller to each drive
- ▶ Form factor: 3.5" & 2.5" SAS, SATA & SSD drives
- ▶ Rotational speeds up to 15K RPM
- ▶ Interface: 12Gb/s – 6Gb/s SAS; 6Gb/s SATA

AC Power

- ▶ Input voltage: 180-264V AC
- ▶ Input frequency: 47-63Hz
- ▶ Input current: 20.0 Amps max @ 230VAC
- ▶ Maximum system continuous DC output power rating: 1600 Watts – Reduced power at low line voltages

Monitoring and Reporting

- ▶ Monitoring for temperature, advanced power & cooling modules including fan speed control, disk drives & I/O module(s), as well as error rates & quality of service
- ▶ In-band reporting of all serial number, part number, & revisions of each FRU & chassis

Performance

- ▶ Up to 76 Gb/s (sustained reads) using 12 Gb/s SSD drives & EDFB

Operating Environment

- ▶ Temperature: 5° to 35°C
- ▶ Relative humidity: 20% to 80% (non-condensing)
- ▶ Altitude: -200 ft to 10,000 feet
- ▶ Shock: 5G at 11ms, 1/2 sine wave pulse
- ▶ Vibration: 0.10G at 5Hz to 500Hz

Non-Operating Environment

- ▶ Temperature: -40° to 60°C
- ▶ Relative humidity: 10% to 90% (non-condensing)
- ▶ Altitude: -200 ft to 40,000 feet
- ▶ Shock: 10G at 11ms, 1/2 sine wave pulse
- ▶ Vibration: 0.5G at 5Hz to 500Hz

Electromagnetic Emissions & Immunity Standards

- ▶ CE Mark
- ▶ EN55022/EN61000 Class A
- ▶ FCC Class A
- ▶ Canadian IECS-003

Safety Standards

- ▶ UL 60950
- ▶ CSA 22.2-950
- ▶ IEC/EN/UL/CSA 60950-1, 2nd Edition

Quality Standards

- ▶ Manufactured under an ISO 9002 registered quality system

Environment Protection

- ▶ RoHS & WEEE compliant

