D1-Q36 6G SAS-SAS
High Availability Systems

OPSLAG storage systems are designed for high availability, non-stop services, applications demanding high throughput, and flexible storage planning with cost effectiveness for small and medium businesses.

Highlights
1. Two 24Gbps (4-lane, 6Gbps SAS) ports per controller.
2. Up to 70K IOPS & 3000MB/Sec. throughput.
3. Fully redundant & hot pluggable designs: RAID controllers, power supplies, fan modules, battery backup modules, & JBOD expansion.
4. Green storage designs: auto disk spin down, advanced cooling mechanism, & 80 PLUS energy-efficient power supplies.
5. Advanced data protection: RAID6, 60, writeable snapshot, Windows VSS support.
6. Flexible volume management for multiple application & environments: (VMware, Hyper-V, Citrix support), cloud, storage, SQL, Exchange, Surveillance, file backup, email, boot from SAN, & etc.
8. Extendable capacity up to 216TB

High Availability
D1-Q36 6G SAS system is specially designed for high availability applications. The D1-Q36 is well equipped with fully redundant components for all major functions, including redundant RAID controllers, power supplies, fan modules, battery backup modules, and SAS JBOD expansion ports. Being hot pluggable, all of them provide non-stop services. In addition, the firmware is high available as well, including RAID 6, 60 support, Opslag writable snapshot, Windows VSS support, and volume configuration restoration; all of these are provided to reduce the chance of rebooting or shutdown. Distinct from others, D1-Q36 is able to upgrade firmware without system down time. Both firmware image and volume handling are well protected by the redundant RAID controllers; when one RAID controller is down or has lost the connection, the other RAID controller takes over its tasks immediately. The volumes and the services are transferred seamlessly simultaneously.

Outstanding Performance
D1-Q36 IOPS is 70,000 at maximum, much higher than other storage systems within the same segment in the current market; besides, its throughput is 3000MB/Sec. at maximum.

Applications
The optimized IOPS and throughput are capable of providing run-time critical online services, such as Cloud storage, SQL, Exchange and high-end surveillance storages. Furthermore, with the 6G SAS interface, D1-Q36 is ideal for virtualization environments - VMWare, Hyper-V, and Citrix. The data volumes can be managed easily and well protected by Opslag advanced data protection features, and there will be no system downtime caused by single point of failure.

Green
All D1-Q36 systems are equipped with Opslag’s default green features for power saving. In most cases, the hard drives consume most power. With the autodisk spin down feature and proper configuration, the power consumption of hard drives can be reduced to a minimum, and users will not even notice this feature. D1-Q36 monitors the environment temperature for cooling mechanism and the fan modules respond accordingly. The power supply modules are all 80 PLUS power efficient for better power converting rate. In virtue of the reduction of hard drive power consumption, the advanced cooling mechanism, and the energy-efficient power supplies, the unnecessary power cost is decreased greatly.

Ordering Information
Controller Configuration
D1-Q36-212D, D1-Q36-316D, D1-Q36-424D Dual controllers*
D1-Q36-212C, D1-Q36-316C, D1-Q36-424C Single controller*

Optional Components
TSATA board SATAII drives support on dual controller models

* The specific functions of dual controller are not available in
D1-Q36-212C, D1-Q36-316C, D1-Q36-424C
## Hardware Components

<table>
<thead>
<tr>
<th></th>
<th>D1-Q36-212D</th>
<th>D1-Q36-316D</th>
<th>D1-Q36-424D</th>
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</thead>
<tbody>
<tr>
<td>RAID Controller</td>
<td>Dual Controllers</td>
<td>Dual Controllers</td>
<td>Dual Controllers</td>
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<tr>
<td></td>
<td>Single controller</td>
<td>Single controller</td>
<td>Single controller</td>
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<tr>
<td>No. of Host Channels Per Controller/System</td>
<td>2 x 24Gbps (4-lane, 6Gbps SAS)</td>
<td>2 x 24Gbps (4-lane, 6Gbps SAS)</td>
<td>2 x 24Gbps (4-lane, 6Gbps SAS)</td>
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<tr>
<td>Expansion Endurance</td>
<td>D1-QJ6 series</td>
<td>D1-QJ6 series</td>
<td>D1-QJ6 series</td>
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<tr>
<td>Cache Memory Per Controller</td>
<td>2GB, up to 4GB, with battery backup</td>
<td>2GB, up to 4GB, with battery backup</td>
<td>2GB, up to 4GB, with battery backup</td>
</tr>
<tr>
<td>No. of Hard Drives (SAS &amp; SATA II)</td>
<td>12</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Max. no. of hard drives (SAS &amp; SATA II)</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Power Supply</td>
<td>2 x 500W</td>
<td>2 x 500W</td>
<td>3 x 500W</td>
</tr>
<tr>
<td>Dimensions</td>
<td>2U 19&quot; Rackmount</td>
<td>3U 19&quot; Rackmount</td>
<td>4U 19&quot; Rackmount</td>
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<td></td>
<td>422.8mm x 500.6mm x 88.0mm (WxDxH)</td>
<td>422.8mm x 500.6mm x 130.0mm (WxDxH)</td>
<td>422.8mm x 500.6mm x 176.0mm (WxDxH)</td>
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## Feature Highlights

**Green**
- Auto disk spin down
- Advanced cooling mechanism
- 80 PLUS energy-efficient power supplies

**RAID & Volume**
- RAID level 0,1,1+0,3,5,6,10,30,50, JBOD, N-way mirror
- Up to 1024 logical volumes
- Up to 32 hard drives per volume group
- Once logical volume can be shared by as many as 16 hosts
- Global and dedicated hot spare
- Write-through or write-back cache policy
- Online volume expansion
- Instant RAID volume availability
- Auto volume rebuilding
- Online volume migration without system down time

**High Availability**
- Dual-active RAID controller
- Cache mirroring through high bandwidth channels
- Flexible RAID group ownership management
- Management port seamless take-over
- Online firmware upgrade, no system down time
- Multi-path & load-balancing support (Microsoft MPIO)

**Advanced Data Protection**
- OP SLAG’s writable snapshot
- Microsoft Windows Volume Shadow Copy Services (VSS)
- Configurable N-way mirror
- Instant volume configuration restoration
- Hot pluggable battery backup module (BBM)

**Management**
- LCM, Serial console; SSH telnet; HTTP Web UI; Secured Web (HTTPS); SES
- Email; SNMP trap; Browser pop-up windows; Syslog; Windows Messenger

**OS Support**
- Windows, Linux, Solaris, Mac

**Virtualization**
- VMware, Hyper-V, Citrix

**Warranty**
- 1-year warranty for system
- 1-year warranty for battery backup module

## Requirements

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<tr>
<td>AC Output</td>
<td>100-240V ~ 7A-4A, 500W with PFC (Auto Switching)</td>
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<tr>
<td>DC Output</td>
<td>3.3V-25A, 5V-32A, 12V-40A</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 to 40°C</td>
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<tr>
<td>Relative Humidity</td>
<td>≤ 80% non-condensing</td>
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**Let’s Talk**

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