HP SAS Hard Drives

Superior levels of performance, scalability, and reliability

10K
SAS
900 GB
653971

February 2013

Today's organizations consist of different kinds of environments. Enterprise data centers must be online 24x7, fulfill requests from numerous users simultaneously, and allow for constant growth and expansion while in operation. Other customer environments require high capacity storage and high data availability for low I/O environments. With some storage requirements escalating and others becoming more complex, factors such as flexibility, performance, increased reliability, greater density, security, scalability, and accessibility are becoming more critical than ever. Our portfolio of SAS hard drives is designed to meet all these demands.

HP SAS Hard Drives utilize a 6 GB/s SAS interface to offer outstanding performance and high data integrity for enterprise servers and storage solutions. The drives for our enterprise portfolio are put through the HP qualification process and are selected based on their performance in mission-critical enterprise environments. The drives in our midline portfolio also undergo a similar qualification process; they are designed to provide businesses the economical reliability and performance needed for lower workload (less than 40% I/O), non mission-critical environments. All HP SAS Hard Drives are proven to be reliable and tuned for superior performance in HP ProLiant, HP Integrity, and HP Storage systems.

The SAS Hard Drives are available in both small form factor (2.5-inch) and large form factor (3.5-inch) options, and feature the management and reliability benefits of an HP SmartDrive Carrier hot-plug option. Providing storage capacity of up to 4 TB, these hard drives offer drive carrier encryption authentication to enable compatibility and quality. These hard drives also come with proactive service and support options.

Key features and benefits

Latest generation interface for enhanced performance and reliability

• Robust 6 GB/s SAS interface in both dual port and full duplex enables quicker data transfer rate

• Options of 15k, 10k, and 7.2k rpm spindle speeds, with advanced tolerance against rotational vibrations deliver high performance

• Native Command Queuing (NCQ) enhances the order in which read/write commands are executed

Simplified monitoring and management

• HP Integrated Lights-Out (iLO) for active system monitoring and online firmware upgrades

• Status LEDs and a "Do Not Remove" indicator that mitigates failures due to accidental or premature removal of drives while they are processing

Designed for HP server platforms and storage solutions

• HP SmartDrive Hot-Plug, HP Non Hot-Plug, and HP Quick Release carrier options for both large and small form factors, allowing more drive bays per square foot

• HP Qualified Option that has passed rigorous qualification processes and is tailored for ProLiant, Integrity, and storage systems

Environments that stand to gain

Our enterprise hard drives are high performance I/O drives designed for large, complex, mission-critical applications. The 10k and 15k rpm enterprise drives are built for mission-critical server or storage applications, while the 7.2 midline drives work well for non mission-critical, capacity- and cost-optimized solutions. Storage solutions for scalability, performance, reliability, and manageability, these hard drives are tuned for superior performance in the HP equipment for which they are designed. These solutions are ideal for transaction processing, database applications, analytics, high performance computing, and business applications.

Series technical specifications—Enterprise drives

Product series	HP SAS Hot-Plug SmartDrive SFF (2.5-inch)	HP SAS Hot-Plug SmartDrive LFF (3.5-inch)	HP SAS Hot-Plug SFF (2.5-inch)	HP SAS Hot-Plug LFF (3.5-inch)	HP SAS Non Hot-Plug SFF (2.5-inch)	HP SAS Non Hot-Plug LFF (3.5-inch)	HP SAS Quick Release SFF (2.5-inch)	HP SAS Quick Release LFF (3.5-inch)
Capacity	15,000 rpm: 146 GB, 300 GB 10,000 rpm: 300 GB, 450 GB, 600 GB, 900 GB, 1.2 TB	450 GB, 600 GB	15,000 rpm: 146 GB, 300 GB 10,000 rpm: 300 GB, 450 GB, 600 GB, 900 GB, 1.2 TB	300 GB, 450 GB, 600 GB	300 GB, 600 GB	300 GB, 450 GB, 600 GB	300 GB, 1.2 TB	300 GB, 600 GB
Height	0.62 in (15.6 mm)	1.06 in (26.8 mm)	0.63 in (16.0 mm)	1.04 in (26.4 mm)	0.591 in (15.00 mm)	1.028 in (26.1 mm)	0.740 in (18.8 mm)	1.165 in (29.6 mm)
Width	2.98 in (75.7 mm)	4.16 in (105.8 mm)	3.1 in (78.7 mm)	4.36 in (110.7 mm)	2.750 in (69.85 mm)	4.0 in (101.6 mm)	2.909 in (73.9 mm)	4.157 in (105.6 mm)
Depth	4.67 in (118.7 mm)	6.69 in (170.0 mm)	5.45 in (138.4 mm)	7.43 in (188.7 mm)	3.937 in (100.0 mm)	5.787 in (147.0 mm)	3.945 in (100.2 mm)	5.787 in (147.0 mm)
Interface	SAS	SAS	SAS	SAS	SAS	SAS	SAS	SAS
Transfer rate synchronous	6 GB/s	6 GB/s	6 GB/s	6 GB/s	6 GB/s	6 GB/s	6 GB/s	6 GB/s
Rotational speed	10,000 rpm, 15,000 rpm	15,000 rpm	10,000 rpm, 15,000 rpm	15,000 rpm	10,000 rpm, 15,000 rpm	10,000 rpm, 15,000 rpm	10,000 rpm	15,000 rpm
Bytes/sector	512	512	512	512	512	512	512	512
Operating temperature	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)

For detailed specifications on all models, click here.

Series technical specifications—Midline drives

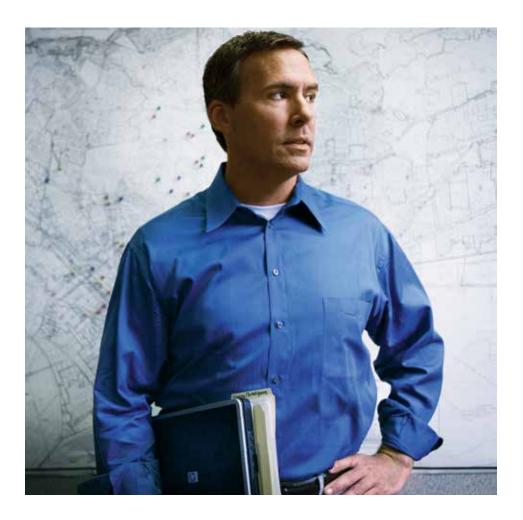| Product series	HP SAS Hot-Plug SmartDrive SFF (2.5-inch)	HP SAS Hot-Plug SmartDrive LFF (3.5-inch)	HP SAS Hot-Plug SFF (2.5-inch)	HP SAS Hot-Plug LFF (3.5-inch)	HP SAS Quick Release LFF (3.5-inch)
Capacity	500 GB, 1 TB	1 TB, 2 TB, 3 TB, 4 TB	500 GB, 1 TB	1 TB, 2 TB, 3 TB, 4 TB	2 TB, 4 TB
Height	0.62 in (15.6 mm)	1.06 in (26.8 mm)	0.63 in (16.0 mm)	1.04 in (26.4 mm)	1.165 in (29.6 mm)
Width	2.98 in (75.7 mm)	4.16 in (105.8 mm)	3.1 in (78.7 mm)	4.36 in (110.7 mm)	4.157 in (105.6 mm)
Depth	4.67 in (118.7 mm)	6.69 in (170.0 mm)	5.45 in (138.4 mm)	7.43 in (188.7 mm)	5.787 in (147.0 mm)
Interface	SAS	SAS	SAS	SAS	SAS
Transfer rate synchronous	6 GB/s	6 GB/s	6 GB/s	6 GB/s	6 GB/s
Rotational speed	7,200 rpm	7,200 rpm	7,200 rpm	7,200 rpm	7,200 rpm
Bytes/sector	512	512	512	512	512
Operating temperature	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)	50° to 95° F (10° to 35° C)

For detailed specifications on all models, click here.

Addressing your IT support needs proactively

We offer support recommendations that are customized and designed to meet different degrees of business demands. Depending on the level of availability your business environment requires, you can choose from the following:

• **Optimized Care:** provides enhanced performance

  – 3-year, 24x7 4-hour Response HP Hardware Support Onsite Service

• **Standard Care:** maintains high-level of uptime

  – 3-year HP Hardware Support Onsite 6- or 24-hour Call-to-Repair (CTR) Service, with 10 Proactive Select Credits

All service options include HP Insight Remote Support for more secure remote monitoring, diagnosis, and problem resolution. The service options also include the HP Support Center facility to provide access to the information, tools, and experts required to support your HP business products. For more information, visit hp.com/services/proliant.

HP Factory Express

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment.

hp.com/go/factoryexpress

Customer technical training

Gain the skills you need with ExpertOne training and certification from HP. With HP Converged Storage training, you will accelerate your technology transition, improve operational performance, and get the best return on your HP investment. Our training is available when and where you need it, through flexible delivery options and a global training capability.

hp.com/learn/storage

Benefit from enhanced performance, scalability, and data integrity

Discover how HP SAS Hard Drives, designed and engineered for high availability, can help you achieve enterprise-class data storage. Visit hp.com/go/SAS.

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