# QuickSpecs

### **Overview**

#### **HPE Hard Disk Drives**

HPE Hard Disk Drives (HDDs) are engineered to deliver optimum performance, reliability, compatibility, and data security across HPE server and storage platforms making them the preferred choice for workloads ranging from small businesses to large enterprise.

### Performance:

- HPE HDDs are tuned and tested with on-going quality monitoring throughout their lifecycle
- HPE optimizes HDD firmware for predictable and consistent HDD performance
- Full portfolio of high-performance Mission Critical and high-capacity Business Critical drive solutions

#### Reliability:

- HPE's industry-leading rigorous testing and qualification program, backed by 2.4 million test hours<sup>1</sup>
- Pre-failure Alerts with HPE Smart Array Controller, Systems Insight Manager, and HPE Smart firmware
- 3x faster firmware and software updates with HPE Service Pack for ProLiant (HPE SPP)
- Best-in-class supply assurance program reduces downtime due to product delays

#### Compatibility:

- Simplify HDD planning and standardize HDDs across HPE server and storage solutions
- Common HDD carriers mean re-purposing drives in other servers is a snap

#### Security:

- HPE Digitally Signed Firmware helps prevent against malicious attacks
- HPE Smart Array SR Secure Encryption is a FIPS 140-2 Level 1 validated enterprise class controller-based encryption solution for data-at-rest on all SAS/SATA drives
- HPE Smart Carriers report drive activity and health

HPE HDDs are available for three types of workloads: Enterprise high-performance Mission Critical, Midline high-capacity Business Critical, and Entry-level storage solutions

#### HPE HDD portfolio: Proven performance for every workload

Class	Enterprise		Midline	Entry*
Workload	High		Medium	Low
Usage		cal, high I/O: ource planning (ERP), omanagement (CRM)	<b>High capacity, high availability storage:</b> Backup, archive, reference	<b>Low I/O:</b> Boot and backup
Interface	SAS 1	12Gb	SAS 12Gb SATA 6Gb	SATA 6Gb
RPM	15000	10000	7200	7200
Form factor	SFF & LFF	SFF	SFF & LFF	LFF
Capacities	Up to 900GB Up to 2.4TB		Up to 12TB	Up to 4TB
Warranty	3 years	3 years	1 year	1 year

**NOTE:\* Supported on select HPE ProLiant servers only.** 



#### Overview

#### What's New

- HPE 600GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD
- HPE 300GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD

#### **HPE Recommended Options**

HPE recommended options have best performance, value and availability.

#### Recommended

Offering the best combination of performance, value and availability, Recommended Options have been selected by HPE experts to provide the right technology for a range of workloads and market segments. Fully integrated into the ProLiant management and security experience, Recommended Options provide the best fit with timely availability.

#### Extended

Extended Options provide an extended catalog of products tailored for customers in specific markets or with specific workloads, requiring the utmost in performance or value. Fully integrated into the ProLiant management and security experience, Extended Options represent great value and performance but typically have a longer lead-time.

HPE Recommended Options – View the list for your region

### **Firmware Updates:**

- Digitally Signed Firmware Prevent unauthorized access to your data with the expansion of integrated HPE Digitally Signed Firmware (DS) on new drives; providing the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks.
- For advanced data protection and encryption, customers should consider HPE Smart Array Controllers with HPE Smart Array Secure SR Encryption. It is a controller-based data encryption solution for HPE servers that protect data-at-rest on any bulk attached storage. This solution meets stringent compliance regulations such as HIPAA and Sarbanes-Oxley.

### **Overview**

#### **Recommended Models**

Offering the best combination of performance, value and availability, Recommended Options have been selected by HPE experts to provide the right technology for a range of workloads and market segments.

Fully integrated into the ProLiant management and security experience, Recommended Options provide the best fit with timely availability.

		Form	_			HDD Carrier	
Category	Interface	factor	Format	Capacity	Smart Carrier SKU	Low Profile SKU	Standard Carrier SKU
		LFF		300GB	P04693-B21 (SCC)		
		LFF		600GB	P04695-B21 (SCC)		
Enterprise				300GB	870753-B21	-	
(15K rpm)			512n	600GB	870757-B21		
	SAS 12G		JIZII	900GB	870759-B21		
		SFF		300GB	872475-B21	-	
		ЭГГ		600GB	872477-B21	-	
Enterprise (10K rpm)				1.2TB	872479-B21	-	
(2000)			512e	1.8TB	872481-B21	-	
			3126	2.4TB	881457-B21	-	
			512n	2TB	872485-B21	833926-B21	
			31211	4TB	872487-B21	833928-B21	
NA! All'an a		LFF		8TB	819201-B21	834031-B21	858384-B21
Midline (7.2K rpm)	SAS 12G		512e	10TB		857646-B21 <sup>He</sup>	
				12TB		881781-B21	
		SFF	512n	2TB	765466-B21	-	
		311		1TB	832514-B21	-	
			512n	1TB	861691-B21	861686-B21	
				4TB	872491-B21	861683-B21	
		LFF		6TB	861750-B21	861742-B21	
Midline	SATA 6G		512e	8TB	819203-B21	834028-B21	
(7.2K rpm)				10TB		857650-B21 <sup>He</sup>	
				12TB		881787-B21 <sup>He</sup>	
		SFF	512n	2TB	765455-B21	-	
		511		1TB	655710-B21	-	

# QuickSpecs

### **Overview**

### **Recommended Models**

					HDD Carrier No Carrier SKU (Raw/Non-Hot Plug)
Entry (7.2K)	SATA 6G	LFF	512n	1TB	801882-B21

**NOTE:** He Helium Drive.

**NOTE:** Refer to the appropriate Server QuickSpecs for full compatibility details.



### Standard Features

# What is HPE Hard disk drive?

Hewlett Packard Enterprise drives are tuned to deliver optimum performance for HPE Servers. They undergo an intense qualification process to eliminate firmware and O/S incompatibilities. HPE drive firmware is designed to maximize both functionality and compatibility with HPE ProLiant Rack and Tower Servers, Apollo family, Blade and Synergy Platforms.

# Drive Quality and Performance

While selecting the drives in our Enterprise portfolio, only those drives with a performance level suitable for an enterprise environment are selected through the Hewlett Packard Enterprise qualification process and are labeled "best-in-class." HPE Midline drives undergo a similar qualification process to ensure that you get the economical reliability and performance you need for your low workload (less than 40% I/O) environments.

#### **Pre-Failure Alert**

When used in conjunction with a SMART Array Controller and Systems Insight Manager, the SMART capable firmware in HPE hard drives enables extensive fault prediction capabilities. If potential problems develop in one of the drives, the Smart Array Controller, Systems Insight Manager and/or SMART hard disk drive lets you know in advance so you can have the drive replaced, before it fails, under warranty.

**NOTE:** All drives are protected by a Pre-Failure Alert when used with a HPE Smart Array controller and Systems Insight Manager, allowing hard drives to be replaced before failure under warranty. In addition, all drives are covered by a one or three-year limited on-site warranty period for the system in which they are installed. The drive warranty is automatically uplifted when used in a server or MSA for which a HPE Pointnext service contract is purchased. Please see the Support Services section below for additional services.

#### **Smart Carriers**

HPE Hard Drives with smart carriers are designed to provide an interface to communicate critical status and management information. System status LED icons and a spinning activity ring reflecting the data-writing process notify users of the current system status. A blue LED located behind the handle can be activated remotely to guide users to a specific drive tray, while a do-not-remove icon positioned on the tray's eject button lights up to warn users when the removal of the drive would cause data loss.

#### **Helium Drives**

Although hard drives are sealed, they have air inside. Air can create turbulence-induced risk vibrations which can limit the storage density of HDDs. Newer helium-filled drives virtually eliminate turbulence because helium is 1/7th as dense as air. This lower density allows the read/write mechanism to spin more easily and precisely, with less drag. Less internal turbulence means the drive platters can be closer together, allowing more platters and increasing the capacity potential in the same space. Less turbulence also means helium drives tend to use less power, and run cooler and quieter.

### **Support Matrix**

Please see the following URL for the latest list of supported servers and enclosures: <a href="https://www.hpe.com/us/en/servers/server-options.html">https://www.hpe.com/us/en/servers/server-options.html</a>

### Warranty

Enterprise hard drives have a 3 year limited warranty regardless of the warranty period for the system in which they are installed.

Midline hard drives have a 1 year limited warranty regardless of the warranty period for the system in which they are installed.

### Service and Support

#### **Service and Support**

#### **HPE Technology Services for Industry Standard Servers**

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability powered by a rich portfolio of consulting and support services designed to add value to our core products and solutions connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

#### Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

**NOTE:** HPE Hard drives are covered under the HPE Pointnext /Service Contract applied to the HPE ProLiant Server. No separate HPE Pointnext s need to be purchased.

# Connect your devices to HPE

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%1 reduction in down time, near 100%2 diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, prefailure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization.

All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

- 1. IDC Whitepaper
- 2. HPE CSC Reports 2014-2015

### **HPE Support Center**

Personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more

#### https://support.hpe.com/hpesc/public/home

HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Services or HPE contractual support agreement.

**NOTE:** HPE Support Center Mobile App above is subject to local availability.

#### Parts and materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

### **Technical Specifications - Recommended Portfolio**

#### **Service Coverage**

For ProLiant servers and storage systems, the service on the main product covers HPE-branded hardware options not designated by Hewlett Packard Enterprise as requiring separate coverage, that are qualified for the server, purchased at the same time or afterward and internal to the enclosure. These items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been reached.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. It does not apply Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by Hewlett Packard Enterprise as consumable parts and/or that have reached maximum supported lifetime and/or the maximum usage limits as set forth in the manufacturer's operating manual, the product QuickSpecs, or the technical data sheet are not eligible for the defective media retention service feature option.

**Subject to:** Maximum supported lifetime: This is a period in years set to equal the warranty for the specific drive. After this period no further service coverage will be available for the drive. Maximum usage limit: This is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for services coverage.

#### For more information

To learn more on services for HPE Server Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or

visit: <a href="https://www.hpe.com/us/en/product-catalog/servers/proliant-servers.html">https://www.hpe.com/us/en/product-catalog/servers/proliant-servers.html</a>
or <a href="https://www.hpe.com/us/en/integrated-systems/bladesystem.html">https://www.hpe.com/us/en/integrated-systems/bladesystem.html</a>

### **Service and Support**

#### **HDD Selection**

To streamline the configuration process for HPE ProLiant servers and to provide the best product availability, HPE recommends HDDs from the list located here: <a href="http://www.hpe.com/products/recommend">http://www.hpe.com/products/recommend</a>

Best product availability is limited to US, Canada, and Latin America at this time.

Supporting Helpful Links
http://www.hpe.com/info/rackandpower
http://www.hpe.com/info/poweradvisor
http://www.hpe.com/info/infrastructurearchitect
https://www.hpe.com/us/en/storage/entry-level.html

# **Technical Specifications**

Enterprise (15K rpm)	)	]								
Form Factor		SFF (2.5")			Carrier		Smart Carrier (SC)			
Rotational Speed		15000 rpm	1			D	imensions			
Interface		SAS			Height		0.62 in (1	5.6 mm)		
Transfer Rate Synch	ronous (Max)	12Gb/sec			Width		2.98 in (7	5.7 mm)		
Bytes/Sector		512			Depth		4.67 in (1	18.7 mm)		
Operating Temperat	ure	50° to 95°	F (10° to	35°C)						
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
870753-B21	HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	260	220	220	220	2.6	3.6	4.4	3.9	
870757-B21	HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	260	220	220	220	4.7	6.1	6.3	6.3	
870759-B21	HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	260	220	220	220	4.7	6.1	6.3	6.3	

# **Technical Specifications**

Enterpris	se (15K rpm)									
Form Factor		LFF (3.5")		Carrie	r	Sma	mart Carrier Converter (SCC)			
Rotational Speed	•				Dimensions					
Interface		SAS		Heigh	it	1.06	in (26.8	mm)		
Transfer Rate Sy	nchronous (Max)	ous (Max) 12Gb/sec		Width		4.16	in (105.8	3 mm)		
Bytes/Sector		512		Depth	1	6.69	in (170.0	mm)		
Operating Temperature	erature	<b>Ire</b> 50° to 95° F (10°								
SKU	SKU DESC	RIPTION	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
P04695-B21	HPE 300GB SAS 15K LFF (3.5in) Digitally Signed	SCC 3yr Wty	260	220	220	220	5.6	7.2	7.7	6.2
P04693-B21	HPE 600GB SAS 15K LFF (3.5in) Digitally Signed	12G Enterprise SCC 3yr Wty	260	220	220	220	4.3	6.9	7.0	6.4

# **Technical Specifications**

recommended i ori									
Enterprise (10K r	pm)								
Form Factor	SFF (2.5")	Carrier	9	Smart Carrie	er (SC)				
Rotational Speed	10000 rpm		-		Dime	nsions			
Interface	SAS	Height	(	0.62 in (15. <sub>0</sub>	6 mm)				
Transfer Rate	12Gb/sec	Width	2	2.98 in (75. <sup>-</sup>	7 mm)				
Synchronous (Max)									
Bytes/Sector	512	Depth	1	4.67 in (118	3.7 mm)				
Operating Tempera	ture 50° to 95° F (10° to 35°)	C)	1		,	1	1	1	r
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
872475-B21	HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SG 3yr Wty Digitally Signed Firmware HDD	195	180	180	180	3.8	6.9	6.1	5.3
872477-B21	HPE 600GB SAS 12G Enterprise 10K SFF (2.5in ) So 1yr Wty Digitally Signed Firmware HDD	195	165	165	165	3.9	6.9	6.1	5.0
872479-B21	HPE 1.2TB SAS 12G Enterpris 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDI	195	165	165	165	4.0	7.1	6.4	5.5
872481-B21	HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SG 3yr Wty 512e Digitally Signed Firmware HDD		165	170	185	2.6	3.6	4.4	3.9
881457-B21	HPE 2.4TB SAS 12G Enterpris 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmwar HDD	255	160	180	195	4.8	6.0	7.8	6.6

Midline (7.2K rpm)			
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)
Rotational Speed	7200 rpm		Dimensions
Interface	SAS	Height	1.06 in (26.8 mm)
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.16 in (105.8 mm)
Bytes/Sector	512	Depth	6.69 in (170.0 mm)
Operating Temperature	50° to 95° F (10°	to 35°C)	

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
872485-B21	HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	190	100	100	100	8.8	12.1	10.8	10.5
872487-B21	HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	190	105	105	105	8.8	12.1	10.8	10.5
819201-B21	HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	230	105	115	115	4.7	6.1	6.3	6.3

# **Technical Specifications**

Midline	7								
(7.2K rpm)				T	1				
Form Factor		LFF (3.5")		Carrier	Low Profile				
Rotational Speed		7200 rpm			1,000, 4		nsions		
Interface		SAS		Height					
Transfer Rate Sync		12Gb/sec		Width	· · · · · · · · · · · · · · · · · · ·				
Bytes/Sector		512		Depth	6.16 in (1	56.58 mm)			
Operating	50° to 95° F (10° to 35°	()							
SKU	SKU DESCRIPTION	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
833926-B21	HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	200	110	110	110	2.6	3.6	4.4	3.9
833928-B21	HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	200	110	110	110	4.7	6.1	6.3	6.3
834031-B21	HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	230	105	115	115	4.7	6.1	6.3	6.3
857646-B21	HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	235	105	110	115	3.8	5.8	5.9	5.0
881781-B21	HPE 12TB SAS 12G Midline 7.2K LFF	235	105	115	125	5.5	6.1	7.0	6.8

(3.5in) LP 1yr Wty				
Helium 512e Digitally				
Signed Firmware HDD				

Midlin	e (7.2K rpm)									
Form Factor		LFF (3.5")		Cai	rrier	S	Standard	Carrier	(ST)	
<b>Rotational Speed</b>		7200 rpm				'	Dimens	ions		
Interface		SAS		He	ight	1	04 in (	26.4 mm	1)	
Transfer Rate Sy	nchronous (Max)	12Gb/sec		Wie	dth	Z	.36 in (	110.7 m	m)	
Bytes/Sector		512		De	pth	7	7.43 in (	188.7 m	m)	
Operating Tempe	erature	50° to 95° F	(10° to 3	5°C)						
SKU	SKU Descripti	ion	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
858384-B21	HPE 8TB SAS 12G Midli (3.5in) ST 1yr Wty 5:		230	105	115	115	4.7	6.1	6.3	6.3

Midline (7.2K rpm)			
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)
Rotational Speed	7200 rpm		Dimensions
Interface	SATA	Height	1.06 in (26.8 mm)
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.16 in (105.8 mm)
Bytes/Sector	512	Depth	6.69 in (170.0 mm)
Operating Temperature	50° to 95° F (10° to 3	5°C)	•

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
861691-B21	HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	185	90	90	90	8.8	12.1	10.8	10.5
872491-B21	HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	190	105	105	105	8.8	12.1	10.8	10.5
861750-B21	HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	215	105	105	110	8.8	12.1	10.8	10.5
819203-B21	HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	230	105	115	115	4.7	6.1	6.3	6.3

Midline	٦									
(7.2K rpm)										
Form Factor		I FF (	(3.5")		Carrier		I ow Pro	ofile (LP)		
Rotational Speed			O rpm					ensions		
Interface		SATA	•		Height			1 (26.1 m	m)	
Transfer Rate Syn	chronous (Max)	6Gb/			Width			(105.5 m		
Bytes/Sector		512			Depth			(156.58 r		
Operating Temperature	50° to 95° F (10° to 35°C)				•			,		
SKU	SKU Description		OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
861686-B21	HPE 1TB SATA 6G Midline LFF (3.5in) LP 1yr Wty Digi Signed Firmware HDD		195	90	90	90	2.6	3.6	4.4	3.9
861683-B21	HPE 4TB SATA 6G Midline LFF (3.5in) LP 1yr Wty Digi Signed Firmware HDD		200	110	110	110	4.7	6.1	6.3	6.3
861742-B21	HPE 6TB SATA 6G Midli 7.2K LFF (3.5in) LP 1yr W 512e Digitally Signed Firmv HDD	Vty	215	110	115	115	4.7	6.1	6.3	6.3
834028-B21	HPE 8TB SATA 6G Midline LFF (3.5in) LP 1yr Wty 51 Digitally Signed Firmware H	L2e	230	105	110	115	4.7	6.1	6.3	6.3
881787-B21	HPE 12TB SATA 6G Midl 7.2K LFF (3.5in) LP 1yr W Helium 512e Digitally Sigr Firmware HDD	Vty	235	105	115	125	5.5	6.1	7.0	6.8

# **Technical Specifications**

Midline											
(7.2K rpm)											
Form Factor	S	FF (2.5")	Ca	rrier	Smart Ca	rrier (SC)					
Rotational Speed		200 rpm			oman oa	Dimens	ions				
Interface		AS	Не	eight	0.62 in (	15.6 mm)					
Transfer Rate Syr		2Gb/sec		idth	2.98 in (75.7 mm)						
Bytes/Sector	, ,	12		pth		118.7 mm)	)				
Operating Temperature	50° to 95° F (10° to 3!										
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)		
832514-B21	HPE 1TB SAS 12G Midline 7.2K SFF (2.5i SC 1yr Wty Digitally Signed Firmware HDI	130	105	105	105	2.6	3.6	4.4	3.9		
765466-B21	HPE 2TB SAS 12G Midline 7.2K SFF (2.5i SC 1yr Wty 512e Digitally Signed Firmware HDD	n) 130	105	105	105	2.6	3.6	4.4	3.9		

Midline (7.2K rpr	n)								
Form Factor		SFF (2	2.5")		Carrier	Smart Car	rier (SC)		
Rotational Speed		7200					mensions		
Interface		SATA	•		Height	0.62 in (1			
Transfer Rate Sync	hronous (Max)	6Gb/s			Width	2.98 in (7.			
Bytes/Sector		512			Depth	4.67 in (1			
Operating Tempera	nture	50° to	95° F (10				<u> </u>		
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
655710-B21	HPE 1TB SATA 6G Midlin 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	e 130	105	105	105	2.6	3.6	4.4	3.9
765455-B21	HPE 2TB SATA 6G Midlin 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	170	105	105	105	2.6	3.6	4.4	3.9

Ent	ry									
Form Factor		LFF (3.5")		Carrier	1	Nor	n Hot Plu	g Carrier	(RW)	
Rotational Speed		7200 rpm					Dimensio	ns		
Interface		SATA		Height		1.02	28 in (26	.1 mm)		
Transfer Rate Syn	chronous (Max)	6Gb/sec		Width		4.00	0 in (101	6 mm)		
Bytes/Sector		512		Depth		5.75	5 in (146	.0 mm)		
Operating Temper	rature 50	° to 95° F (10	° to 35°C)							
SKU	SKU Descri	otion	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
801882-B21	HPE 1TB SATA 60 LFF (3.5in) RW 1y	•	160	95	95	95	8.8	12.2	10.8	10.5

### **Technical Specifications**

Extended Options provide an extended catalog of products tailored for customers in specific markets or with specific workloads, requiring the utmost in performance or value.

Fully integrated into the ProLiant management and security experience, Extended Options represent great value and performance but typically have a longer lead-time.

_		Form	_			HDD Car	rier	
Category	Interface	Factor	Format	Capacity	Smart Carrier SK	U	Low F	Profile SKU
		SFF	512e	900GB	870765-B21			-
				300GB			870	755-B21
Enterprise (15K rpm)	SAS 12G	LFF	512n	300GB	737261-B21			
(_0,(, p,)			31211	600GB	765424-B21			
				900GB	1		870	761-B21
						HDD Car	rier	
					Smart Carrier SKU	Low Pr	ofile SKU	Standard Carrier SKU
			512n	1TB	846524-B21	8465	26-B21	-
				6TB	846514-B21		-	-
				4TB	-	8617	48-B21	-
Midline 7.2K	SAS 12G	LFF		6TB	861754-B21	8617	46-B21	-
rpm	3A3 12G		512e	8TB	861590-B21 <sup>He</sup>			
				10TB	857644-B21 <sup>He</sup>			869347-B21 <sup>He</sup>
				12TB	881779-B21			881783-B21
		SFF		1TB	765464-B21		-	-
			512n	2TB	872489-B21	8616	81-B21	-
				4TB		8617	44-B21	
Midline 7.2K rpm	SATA 6G	LFF	512e	8TB	861594-B21 <sup>He</sup>	86159	96-B21 <sup>He</sup>	
			3126	10TB	857648-B21 <sup>He</sup>			-
				12TB	881785-B21			-
						HDD Care		
_			512n	4TB	No Carrier	SKU (Raw, 801888-6	/Non-Hot Pl	ug)
Entry	SATA (7.2K)	LFF						
			512e	1TB		843266-E	ΣΔT.	

**NOTE:** \*Also known as "Desktop Drive", this drive has Generic Firmware (Non-HPE)

		_								
Enterprise	(15K rpm)									
Form Factor		SFF (2.5")	)			Carrier	Sm	nart Carrie	r (SC)	
Rotational Speed		15000 rp	m				D	imension	s	
Interface		SAS				Height	0.6	o2 in (15.6	mm)	
Transfer Rate Synch	ronous (Max)	12Gb/sec				Width	2.9	98 in (75.7	7 mm)	
Bytes/Sector		512				Depth	4.6	7 in (118	3.7 mm)	
Operating Temperat	<b>ture</b> 50° to 95°	F (10° to 35	S°C)				•			
SKU	SKU Descrip	tion	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
870765-B21	HPE 900GB SA Enterprise 15K SFF 3yr Wty 512e Digita Firmware HI	(2.5in) SC ally Signed	285	225	245	265	4.7	6.1	6.3	6.4

Enterp	orise (15K rpm)									
Form Factor		LFF (3.	.5")		Ca	rrier	Sma	rt Carrier	Converte	r (SCC)
Rotational Speed		15000	rpm				Din	nensions		
Interface		SAS			He	ight	1.06	in (26.8	mm)	
Transfer Rate Sync	hronous (Max)	12Gb/s	sec		Wi	dth	4.16	in (105.8	3 mm)	
Bytes/Sector		512			De	pth	6.69	in (170.0	mm)	
Operating Tempera	nture	50° to	95° F (10	° to 35°C	()		•			
SKU	SKU Description		OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
737261-B21	HPE 300GB SAS 12G Ente 15K LFF (3.5in) SCC 3yr Wt	•	230	230	230	230	3.8	5.8	5.9	5.0
765424-B21	HPE 600GB SAS 12G Ente 15K LFF (3.5in) SCC 3yr Wt		225	225	225	225	4.7	6.1	6.3	6.4

Enter	prise (15K rpm)									
Form Factor		LFF (3.5	")	Carrie	r	Low Profile	Converter	(LPC)		
Rotational Speed		15000 r	pm			Dime	ensions			
Interface		SAS		Height	t	1.028 in (26	5.1 mm)			
Transfer Rate Syn	chronous (Max)	12Gb/se	С	Width		4.15 in (105	5.5 mm)			
Bytes/Sector		512		Depth		6.16 in (156	5.58 mm)			
<b>Operating Temper</b>	ature	50° to 9!	5° F (10° t	o 35°C)						
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
870755-B21	HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	295	235	235	235	2.6	3.6	4.4	3.9	
870761-B21	HPE 900GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	295	235	235	235	4.7	6.1	6.3	6.4	

Mid	line (7.2K rpm)								
Form Factor		LFF (3.5'	")	Carrier		Stan	Power Randard Carrier (ST)  Mensions  O4 in (26.4 mm)  36 in (110.7 mm)  43 in (188.7 mm)  Watts)  Watts)  Americal Marits		
Rotational Speed		7200 rpr	n			Dimer	nsions		
Interface		SAS		Height		1.04	in (26.4 r	Power Kandom K/W (Watts) (Watts) (Watts) (Watts) (Watts) (Watts) (Watts)	
Transfer Rate Synch	ronous (Max)	12Gb/se	С	Width		4.36	in (110.7	mm)	
Bytes/Sector		512		Depth		7.43	in (188.7	mm)	
Operating Temperat	ture	50° to 95° F (10° to 35°C)							
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
869347-B21	HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) ST 1yr Wty Helium 512e HDD	235	105	110	115	3.8	5.8	5.9	5.0
881783-B21	HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) ST 1yr Wty Helium 512e HDD	235	105	115	125	5.5	6.1	7.0	6.8

Midline (7.2K rp	m)									
Form Factor		LFF (3.5")	)	Carrier	Smart Carr	ier (SC)				
Rotational Speed	<u> </u>	7200 rpm	1				Dir	nensions		
Interface		SAS		Height	1.06 in (26	.8 mm)				
Transfer Rate Sy	nchronous (Max)	12Gb/sec		Width	4.16 in (10	)5.8 mm)				
Bytes/Sector		512		Depth	6.69 in (17	'0.0 mm)				
Operating Temperature	50° to 95° F (10° to 35°	C)								
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)	
846524-B21	HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	200	110	110	110	2.6	3.6	4.4	3.9	
846514-B21	HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	190	105	105	105	4.7	6.1	6.3	6.4	
861754-B21	HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	200	100	105	110	8.8	12.1	10.8	10.5	
861590-B21	HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	210	105	110	120	3.8	5.8	5.9	5.0	
857644-B21	HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	235	105	110	115	3.8	5.8	5.9	5.0	
881779-B21	HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	235	105	115	125	5.5	6.1	7.0	6.8	

Mid	line (7.2K rpm)							Power Random R/W (Watts) Power Sequential Read (Watts) Power Sequential	
Form Factor		LFF (3.5"	")	C	arrier	L	ow Profile (	LP)	
Rotational Speed		7200 rpr	n				Dimensions		
Interface		SAS		F	leight	1	L.028 in (26	.1 mm)	
Transfer Rate Syr	chronous (Max)	12Gb/sed	С	٧	Vidth	4	+.15 in (105	.5 mm)	
Bytes/Sector		512		D	epth	6	5.16 in (156	.58 mm)	
Operating Tempe	rature	50° to 95	5° F (10° t	o 35°C)					
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
846526-B21	HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	200	110	110	110	2.6	3.6	4.4	3.9
861748-B21	HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	215	110	115	120	4.7	6.1	6.3	6.4
861746-B21	HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	215	110	115	120	4.7	6.1	6.3	6.4

	<del></del>										1
Midline (7.2K rpi	n)										
Form Factor			LFF (3.5")			Carrier		Smart Carrier (SC)			
Rotational Speed		7200	rpm					[	Dimensions		
Interface		SATA				Hei	ght		1.06 in (26.	3 mm)	
Transfer Rate Sync	hronous (Max)	6Gb/s	sec		1	Wic	ith		4.16 in (105	5.8 mm)	
Bytes/Sector		512				Dep	oth		6.69 in (170	).0 mm)	
Operating Temperating	ture	50° to	95° F (10	0° to 35°C	2)						
SKU	SKU Description		OD Media Rate, Max Sequential Throughput	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT	(IOPs)	128Kib Random 50% RD/ 50% WT (10Ps)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
872489-B21	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD		185	90	90		90	8.8	12.1	10.8	10.5
861594-B21	HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD		210	105	110	)	115	3.8	5.8	5.9	5.0
857648-B21	HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD		235	105	110	)	115	3.8	5.8	5.9	5.0
881785-B21	HPE 12TB SATA 6G M 7.2K LFF (3.5in) SC 1yı Helium 512e Digitally S Firmware HDD	r Wty	235	105	115	•	125	5.5	6.1	7.0	6.8

Midline (7.2K rpm)					
Form Factor	LFF (3.5")	Carrier	Low Profile (LP)		
Rotational Speed	7200 rpm		Dimensions		
Interface	SATA	Height	1.028 in (26.1 mm)		
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.15 in (105.5 mm)		
Bytes/Sector	512	Depth	6.16 in (156.58 mm)		
Operating Temperature	50° to 95° F (10	50° to 95° F (10° to 35°C)			

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
861681-B21	HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	195	90	90	90	2.6	3.6	4.4	3.9
861744-B21	HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	215	110	115	115	4.7	6.1	6.3	6.4
861596-B21	HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	210	105	110	115	3.8	5.8	5.9	5.0

Midline (7.2K rpm)									
Form Factor		SFF (2.5")		Carrier	Smart Carrier (SC)				
Rotational Speed		7200 rpm		Dimensions					
Interface		SAS		Height	0.62 in	(15.6 mm)			
Transfer Rate Synch	ronous (Max)	12Gb/sec		Width	2.98 in	(75.7 mm)			
Bytes/Sector		512		Depth	4.67 in	(118.7 mm	1)		
Operating Temperature	50° to 95° F (10°	to 35°C)							
SKU	SKU Descriptio	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
765464-B21	HPE 1TB SAS 1 Midline 7.2K SF (2.5in) SC 1yr W 512e Digitally Signed Firmwal HDD	F /ty 130	105	105	105	2.6	3.6	4.4	3.9

	_								
Entry									
Form Factor	<u>.                                      </u>	LFF (3.5")		Carrier	Non Hot Plu	ug Carrier (	(RW)		
Rotational Speed		7200 rpm				Dimens	sions		
Interface		SATA		Height	1.028 in (2	6.1 mm)			
Transfer Rate Syn	chronous (Max)	6Gb/sec		Width	4.00 in (10	1.6 mm)			
Bytes/Sector		512		Depth	5.75 in (14	6.0 mm)			
Operating Temper	ature	50° to 95° F	(10° to 3	55°C)					
SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	(ib Rand 50% WT	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
801888-B21	HPE 4TB SATA 6G Er 7.2K LFF (3.5in) RW 1 Wty HDD		95	95	95	8.8	12.1	10.8	10.5
843266-B21	HPE 1TB SATA 6G Er 7.2K LFF (3.5in) RW 1 Wty 512e HDD					2.6	3.6	4.4	3.9

### **Technical Specifications**

#### **Carrier Decoder**

HPE Hard Disk Drives (HDDs) utilize a wide variety of carriers, which houses the HDD and also enables a specific chassis fit to support a broad range of HPE server and storage products. The table below summarizes the various form factors, plug types, and carrier attributes.

Carriers								
Form Factor	HP/NHP	Smart/Non-Smart	Carrier Name (Abbreviation)	SFF/LFF				
CEE Coming	Llat Dive	Smart	Smart Carrier <b>(SC)</b>	SFF				
SFF Carrier	Hot Plug	Non-Smart	Standard <b>(ST)</b>	SFF				
		Consort	Smart Carrier <b>(SC)</b>	LFF				
	er Hot Plug Non-Smart	Smarr	Smart Carrier Converter (SCC)	LFF				
LFF Carrier			Low Profile <b>(LP)</b>	LFF				
		Non-Smart	Low Profile Converter (LPC)	LFF				
			Standard <b>(ST)</b>	LFF				
No Carrier	Non-Hot Plug	Non-Smart	Raw LFF HDD <b>(RW)</b>	LFF				

### **HDD SKU Description Decoder**

### Long Name

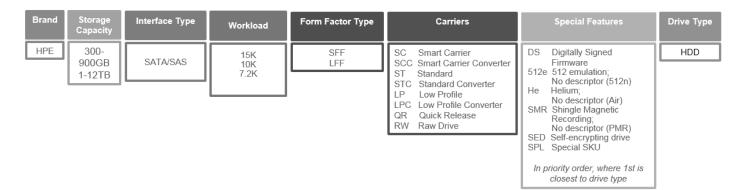
### HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 3yr Wty He 512e Digitally Signed Firmware HDD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Carriers	Wty	Special Features	Drive Type
HPE	300- 900GB 1-12TB	SATA/SAS 6G/12G	Enterprise 15/10K Midline 7.2K Entry 7.2K/5.9K	SFF (2.5IN) LFF (3.5IN)	SC Smart Carrier SCC Smart Carrier Converter ST Standard STC Standard Converter LP Low Profile LPC Low Profile Converter QR Quick Release RW Raw Drive	3yr Wty 1yr Wty	Digitally Signed Firmware 512e - No descriptor (512n) Helium - No descriptor (Air) SMR - Shingle Magnetic Recording; No descriptor (PMR) SED - Self Encrypting Drive Special - Special SKUs In priority order, where 1st is closest to drive type	HDD

#### **Short Name**

### **Technical Specifications**

# HPE 10TB SAS 7.2K LFF SC He 512e DS HDD



Environment friendly Products and Approach End-of life Management and Recycling Hewlett Packard Enterprise offers end-of-life  $\underline{\mathbf{U}}$ , in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **Hewlett Packard Enterprise web site**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

### **Summary of Changes**

Date	Version History	Action	Description of Change
04-Jun-2018	Version 9	Added	P04695-B21 HPE 600GB Enterprise 15K SAS 12G
			LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware
			HDD
			P04693-B21 HPE 300GB Enterprise 15K SAS 12G
			LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware
			HDD
			Power specs for all drives
		Changed	Seek time specs to IOPs
			From Recommended to Extended: 861590-B21, 861594-B21, 861596-B21
			From Extended to Recommended: 801882-B21,
			881787-B21
05-Mar-2018	Version 8	Changed	Overview, Service and Support, and Technical
			Specifications were revised.
05-Feb-2018	Version 7	Added	Added new HPE 12TB Midline 7.2K SAS LFF (3.5in)
			Helium 512e Digitally Signed Firmware HDD models:
			881779-B21, 881781-B21, 881783-B21
		Changed	Change format to breakout recommended and
			extended portfolios.
		Removed	Obsolete SKUs
04-Dec-2017	Version 6	Added	Added new HPE 12TB Midline 7.2K LFF (3.5in) Helium
			512e Digitally Signed Firmware HDD models.
		Changed	Overview, Service and Support, and Technical
			Specifications were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
23-Oct-2017	Version 5	Changed	Part number 881458-B21 was changed to 881457-
			B21.
			Care Pack references changed to HPE Pointnext
05.0 0047			operational services.
25-Sep-2017	Version 4	Added	Added 881458-B21 HPE 2.4TB SAS 12G Enterprise
			10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed
		Changed	Firmware HDD
		Changed	Overview, Standard Features, Service and Support, and Technical Specifications were revised.
12-Jun-2017	Version 3	Changed	Overview and Technical Specifications were revised.
27-Mar-2017	Version 2	Added	Added new HDD offering.
∠/-I*IdI-ZUI/	VEISION Z	Changed	Overview and Technical Specifications were revised.
13-Feb-2017	Version 1	Added	Combined SAS and SATA into one single QuickSpecs.
TO-LED-SOT/	VEISION I	Added	Overview, Models, Compatibility, Standard Features,
			Service and Support, and Technical Specifications
			sections were updated. New part number descriptions
			have been added.
			Have been duded.



### **Technical Specifications**



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

a00001287enw - 15825 - Worldwide - V9 - 4-June-2018