

Overview and Models

HPE Tower Uninterruptible Power Systems (UPS)

Looking for cost-effective power protection for your small office environments?

When you use technology, the important part of the equation is power. Without power or the steady stream of power, it can be impossible to deliver the services reliably throughout your computing environment. IT equipment is the number one customer for UPS devices. Why? Electricity delivered from utility companies doesn't remain constant. A slight power surge, power sag or outage could be detrimental to your IT equipment. Infrastructure equipment works best when it gets a steady stream of power.

With the HPE Tower Uninterruptible Power Systems (UPS), you will have the peace of mind knowing that your IT equipment is protected, has the flexibility needed for growth and running at peak power efficiency. HPE Tower UPS delivers a high-quality power backup solution that ensures critical IT systems retains a continuous flow of power that protects your data and provides performance when you need it. HPE Tower UPS safeguards the steady flow of clean and secure power within your computing environment with advanced remote management through its optional next generation network management card. Standard features include intuitive front panel displays for local management, and power management software including HPE Power Protector that when combined with a UPS Network Module, optional on all models, enables you to remotely monitor and manage your UPS through HPE Systems Insight Manager or via a standard web browser.

- Remote access through an optional 1GbE-based network management card ensures widespread connectivity with most user networks.
- Web-based management application, HPE Power Protector, allows you to monitor, manage, and control a single UPS both locally and remotely.
- Outlet switching at the load level allows you to control and prioritize access to the UPS power.
- Slim tower design helps to conserve valuable space
- Easily installed in most offices, retails and/or IT environments
- Next generation LCD offers a graphical interface that provides all critical UPS information in a single screen view.
- Batteries can be hot-swapped safely without ever shutting down IT equipment.
- Capable of protecting with up to 14% more power as compared to previous HPE Line Interactive Tower UPS models.
- Enhanced Battery Management (EBM) technology delivers up to 50% longer battery life.
- Industry leading efficiency of up to 99% helps to ensure minimal power loss and lower power costs.

Tower UPS Models

HPE T750 G5 UPS Models

HPE T750 G5 NA/JP Uninterruptible Power System

Q1F47A

HPE T750 G5 INTL Uninterruptible Power System

Q1F48A

HPE T1000 G5 UPS Models

HPE T1000 G5 NA/JP Uninterruptible Power System

Q1F49A

HPE T1000 G5 INTL Uninterruptible Power System

Q1F50A

HPE T1500 G5 UPS Models

HPE T1500 G5 NA/JP Uninterruptible Power System

Q1F51A

HPE T1500 G5 INTL Uninterruptible Power System

Q1F52A

Overview and Models

HPE Power Management

HPE Power Protector Software

HPE Power Protector, a web-based application, enables administrators to manage an HPE UPS from a management console. Administrators can monitor, manage, and control a single UPS locally and remotely.

- UPS power management via HPE Power Protector available via free download from HPE.com.
- Allows for local or network-based UPS monitoring, status updates, and control over shutdown communications
- Download to other servers or IT devices to create "clients" that can be configured for graceful shut down
- Access the HPE Power Protector user interface via a USB or serial connected server (proxy server) or through the optional 1GbE Network Management Card

Increase stability and security in your data center

HPE Power Protector gives you the ability to establish power failure policies and automatically respond 24×7 to power faults or security risks without IT administrators present. Prioritize shutdowns in the event of a power failure to ensure that your data and hardware are fully protected. Delay restart based on defined load segments after a shutdown to sequence the startup of system components and perform UPS diagnostics to ensure the availability of adequate battery backup times.

Simplify management of UPS functions

Simple, effective management of environments, one UPS at a time. For users wanting ease of use, this is the tool to use. From load segmentation to power down prioritization and alert management, this tool offers everything needed from a single console. It even offers remote access via a web browser with secure SSL authentication. Simple, easy to read status "gauges" offer monitoring at a glance.

Typical use cases

- Providing power protection for Microsoft® Windows®, Linux, UNIX, and other popular operating systems
- Supporting single or small workgroups of tower and rack servers attached to a single UPS
- Offering easy-to-use and configure power failure settings

Supported Operating Systems

Similar to hardware support, HPE Power Protector is designed to support a wide array of operating systems, spanning Microsoft Windows, Linux, UNIX, and virtual platforms.

Operating system HPPP (Client & Admin)		Service Pack	Platform	HPPP		HPNMC
				Admin	Client	NMC
Microsoft Windows						
Windows Server 2016	Standard, Data Center, Core			Tested	Tested	Tested
Windows Server 2012	Standard, Data Center, Core		x64	Supported	Supported	Supported
Windows Server 2012 R2	Standard, Data Center, Core		x86, x64	Tested	Tested	Tested
Windows Server 2008 R2	Standard, Data Center, Core	SP1	x64, IA64	Tested	Tested	Tested
Windows Server 2008	Standard, Data Center, Core	SP2	x86, x64, IA64	Supported	Supported	Supported

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Windows Server 2003 R2	Standard, Data Center, Core			Not supported	Not supported	Not supported
Windows 10	Enterprise, Pro		x64	Tested	Tested	Tested
Windows 8.1	Enterprise, Pro		x64	Tested	Tested	Tested
Windows 8	Enterprise, Pro		x86, x64	Supported	Supported	Supported
Windows 7	Professional, Ultimate, Standard	SP1	x86, x64	Tested	Tested	Tested
Windows XP	Professional	SP3		Not supported	Not supported	Not supported
Linux						
Red Hat Enterprise Linux	7.3		x86, x64	Tested	Tested	Tested
	7.2		x86, x64	Tested	Tested	Tested
	6.7		x86, x64	Tested	Tested	Tested
	6.6		x86, x64	Supported	Supported	Supported
	5.11		x86, x64	Tested	Tested	Tested
	5.10		x86, x64	Supported	Supported	Supported
	5.7		x86, x64	Not supported	Not supported	Not supported
SUSE Linux Enterprise Server/Novel	Fedora core 15		x86, x64	Not supported	Not supported	Not supported
	Fedora core 14		x86, x64	Not supported	Not supported	Not supported
SUSE Linux Enterprise Server/Novel	12	SP2	x86, x64, IA64	Tested	Tested	Tested
	11	SP3	x86, x64, IA64	Tested	Tested	Tested
	OpenSuse 13.0		x86, x64	Not supported	Not supported	Not supported
	OpenSuse 12.3		x86, x64	Not supported	Not supported	Not supported

Debian GNU Linux	7, 6		IA64	Not supported	Not supported	Not supported
Ubuntu	13.04, 12.1		IA64	Not supported	Not supported	Not supported

Virtual environments						
VMware	ESXi 6.5		X86, IA64	n/a	Tested	Tested

Overview and Models

VMware	ESXi 6.0	U1	X86, IA64	n/a	Tested	Tested
	ESXi 5.5	U3	X86, IA64	n/a	Tested	Tested
	ESXi 5.1 (pay version only)	U1		n/a	Supported	Supported
	ESXi 5.0 (pay version only)	U1		n/a	Supported	Supported
	ESX 4.1 (pay version only)	U1		n/a	Not supported	Not supported
	ESXi 4.1 (pay version only)	U1		n/a	Not supported	Not supported
	ESX 4.0 (pay version only)	U1		n/a	Not supported	Not supported
	ESXi 4.0 (pay version only)	U1		n/a	Not supported	Not supported
Microsoft	Windows Hyper-V Server 2012	R2		n/a	Supported	Supported
	Windows Hyper-V Server 2008	R2	X86, IA64	n/a	Supported	Supported
Xen	Citrix XenServer 6.0			n/a	Supported	Supported
	Citrix XenServer 5.6		IA64	n/a	Supported	Supported
	OpenSource Xen 2.6 on RHEL 5			Not supported	Not supported	Not supported
	OpenSource Xen 3.2 on Debian 5			Not supported	Not supported	Not supported
KVM	KVM 17 Linux 2.6.21 kernel			Not supported	Not supported	Not supported

For x86-64 and IA-64 architectures and on Microsoft Windows systems and HP-UX for IA-64, HPE Power Protector will work in 32-bit compatibility mode. This implies that no native ports for these architectures will be made for these systems; the only exception is for components that strictly require native ports, such as device drivers.

Tower UPS Features

Key features

Ease of Use

- Slim tower design helps to conserve valuable space and can be easily installed in most office, retail, and/or IT environments.
- Next-generation LCD offers a graphical interface which provides all critical UPS information in a single screen view.
- Batteries can be hot-swapped safely without ever shutting down IT equipment.

Management

- Remote access through an optional 1GbE-based network management card ensures widespread connectivity with most user networks.
- Web-based management application, HPE Power Protector, allows you to monitor, manage, and control a single UPS, locally and remotely.
- Outlet switching at the load segment level allows you to control and prioritize access to UPS power.

Efficiency

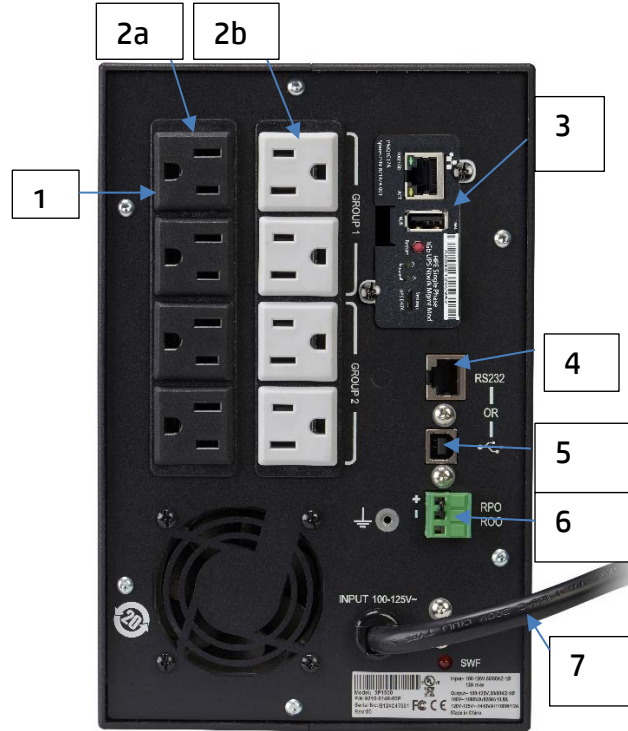
- Capable of protecting more devices with up to 14% more power as compared to previous generation HPE Tower UPS models.
- Enhanced Battery Management (EBM) technology delivers up to 50% longer battery life.
- Industry leading efficiency of up to 99% helps to ensure minimal power loss and lower power costs.

HPE Tower UPS Front Panel



HPE Tower UPS Rear Panel

Tower UPS Features



HPE T750

HPE T1000

HPE T1500

Note: International models include these features however the input power cord is detached.

- 1. Primary Group: outlets for connection of critical equipment
- 2. a Group 1: Two programmable outlets for connection of equipment
- 2. b Group 2: Two programmable outlets for connection of equipment
- 3. Communication slot with optional Network Management Card installed

- 4. RS-232 Communication Port
- 5. USB Communication Port
- 6. (RPO/ROO) Remote power off/Remote on-off connector
- 7. Attached 6-ft. Input Power Cord for AC Power Source

Tower UPS Specifications

Towers G5 UPS Specifications

Electrical Input	Voltage Range	NA/JP Models = 93V – 147V INTL Models = 168V – 286V See Model Matrix for nominal and user selectable voltage settings.
	Frequency	50/60 Hz
	Online Efficiency	>95%
Electrical Output	On battery Regulation	±6%, -10% of nominal voltage
	Online Regulation	NA/JP Models = -15% to +10% of nominal voltage INTL Models = -20% to +15% of nominal voltage
	Voltage Wave Form	Sine wave
	Connections	See Model Selection Matrix
Battery	Output protection	Firmware overload sensing and control
	Type	Maintenance-free, rechargeable, valve regulated lead-acid batteries
	Extended Batteries	N/A
	Backup Time	See Backup Times Chart
	Recharge Time	<4 hours to charge 90% usable capacity. <24 hours for complete recharge
Communications	Voltage	750 and 1000 models are 24 volt, 1500 model is 36 volt
	Serial Ports	RS232 (via RJ45 connector to DB9) and USB ports (ships with communication cables)
	Option Slot	Yes, for the UPS management card
	Option Cards	Optional Network Management Card available
	LCD Interface	LCD Display and Button Interface on front panel
	Management Software	Power Management including HPE Power Protector software. See HPE Power Protector QuickSpec for more information.
	Environmental and Safety	Operating Temperature
Non-operating Temperature		-15°C to 40°C (5°F to 104°F) (with battery) -15°C to 50°C (5°F to 122°F) (without battery)
Operating Humidity		0% to 90% (non-condensing)
Storage Humidity		5% to 90% (non-condensing)
Operating Altitude		Up to 1500 m above sea level
Audible Noise		<40dB in normal operation. <45dB while charging, on inverter, or in Buck/Boost mode
Safety Markings		NA/JPN: UL/cUL, ICES B,NOM,VCCI, Int'l: CE,TUV GS,C-tick,EAC,KC
Safety Certifications		UL1778, UL60950-1; CSA22.2 No.107.3-05; EN609501-, EN62040-1 IEC62040-1-1, IEC 60950-1
EMC Markings		FCC-A; CISPR 22; VCCI A; CE, BSMI, C-TICK
Emissions		FCC CFR 47, Part 15 Class A, EN50091-2
Immunity		EN 55024; EN 50091-2 consisting of IEC 61000-4-2 thru IEC 61000-4-6; IEC 61000-4-11
Surge Suppression	Conforms to IEEE 587B and ANSI C62.41	
RPO/ROO	The Normally Closed (NC) RPO shuts off power to all UPS outlets when opened. The UPS must be manually restarted	

Tower UPS Specifications

once the terminals are closed again. There is a preinstalled jumper in the RPO terminals.
The Normally Open (NO) ROO initiates a UPS Power On function when closed. Opening the terminals again will shut off the UPS

HPE T750 G5 UPS

See model matrix for other specifications.

T750 G5, NA/JP Q1F47A	Load Segments	1
T750 G5, INTL Q1F48A	Unit Dimensions (WxDxH)	5.9 x 13.6 x 9.1 inch (150 x 345 x 230 mm)
	Unit Weight	22.77 lbs (10.35kg)

HPE T1000 G5 UPS

T1000 G5, NA/JP Q1F49A	Load Segments	1
T1000 G5, INTL Q1F50A	Unit Dimensions (WxDxH)	5.9 x 13.4x 8.3 inch (150 x 340x 210 mm)
	Unit Weight	25.3 lbs (11.5kg)

HPE T1500 G5 UPS

T1500 G5, NA/JP Q1F51A	Load Segments	1
T1500 G5, INTL Q1F52A	Unit Dimensions (WxDxH)	5.9 x 17.5 x 9.1 inch (150 x 445 x 230 mm)
	Unit Weight	34.32 lbs (15.6 kg)

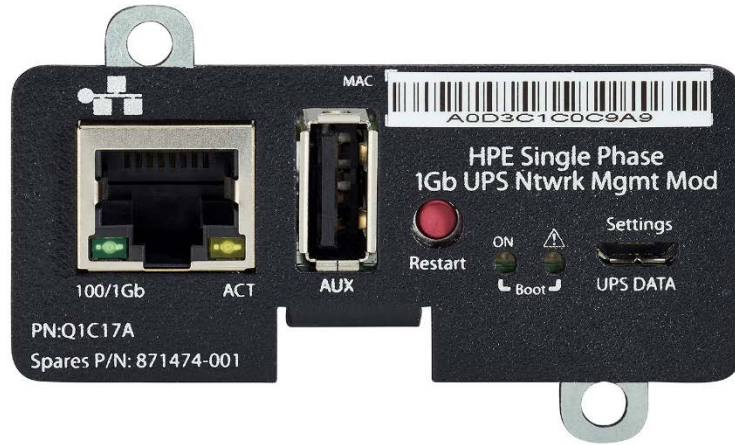
NOTE: Locate which Operating Systems are supported

at: <https://www.hpe.com/us/en/product-catalog/detail/pip.hpe-advanced-power-manager.5202410.html>.

What's in the box:

- HPE Tower UPS
- Output power jump cables (2) for HV North America and International models
- RS-232 communication cable (1)
- USB cable (1)
- Cable locking device for HV North America and International models
- Documentation

Related Options



UPS Network Management

The HPE 1Gb Ethernet Network Management Module enables you to monitor and manage power environments through comprehensive control of HPE UPSs. The HPE UPS Management Module can support either a single UPS configuration or provide additional power protection with support for dual redundant UPS configuration for no-single-point-of-failure. The additional serial ports will provide greater power management control and flexible monitoring.

The management module can be configured to send alert traps to HPE Systems Insight Manager and other SNMP management programs or used as a standalone management system. This flexibility enables you to monitor and manage UPSs through the network. To facilitate day-to-day maintenance tasks, the embedded management software provides detailed system logs.

The HPE UPS Network Module provides remote management of a UPS by connecting the UPS directly to the network. You now have configuration and management of the UPS from anywhere and at anytime via a standard web browser.

NOTE: For more information on the UPS Network Module please see: hpe.com/info/rackandpower.

UPS Management Module

HPE Single Phase 1Gb UPS Network Management Module

Q1C17A

Warranty and Care Pack

Warranty

When you need it, use outstanding HPE support services for your whole data center environment. With HPE Pointnext operational services, have the security of knowing that your HPE UPS will be covered at the same service level and coverage period as your HPE server. HPE UPSs are backed by a 3-year limited warranty, with the first year including parts and labor. Also, standard on all HPE UPS units is our exclusive 30-day Battery Pre-Failure Warranty, which ensures that when customers receive notification from HPE Power Manager Software that the battery may fail, the battery is replaced free of charge under the warranty. This warranty is offered worldwide.

NOTE: \$250,000 Computer/Load Protection Guarantee is also provided (applicable in North America only).

The HPE UPS is covered by a three year warranty, with the first year including parts and labor. Also, standard on all HPE UPS units, is our exclusive Battery Pre-Failure Warning, which extends the advantage of a HPE three-year, limited warranty by applying it to the battery before it actually fails. This warranty is offered worldwide. Specifically, the Battery Pre-Failure Warning ensures that when customers receive notification from HPE Power Management Software that the battery may fail, the battery is replaced free of charge under the warranty.

NOTE: \$250,000 Computer/Load Protection Guarantee is also provided in North America, in addition to the HPE three year, limited warranty.

Warranty Upgrade Options:

- Response - Upgrade on-site response from next business day to same day 4-hours
- Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours
- Duration - Select duration of coverage for a minimum period of 1 year or multiple years

Service and Support

HPE Technology Services

HPE Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability and avoid downtime.

Protect your business beyond warranty with HPE Pointnext operational services

When you buy HPE Options, it's also a good time to think about what level of service you may need. HPE Pointnext operational services provide total care and support expertise with committed response choices designed to meet your IT and business need.

Insight Remote Support

Delivers secure remote monitoring and support for Hewlett Packard Enterprise servers and storage, 24x7 at no additional cost. Available as part of HPE Warranty, Care Pack and Service Contract offers.

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 QuickSpecs, 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 HPE due to malfunction.

Coverage

For ProLiant servers and storage systems, this service covers HPE-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; 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 exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that

Warranty and Care Pack

have not failed. SSD/Flash Drives that are specified by HPE as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

For more information To learn more on services for HPE ESSN Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit: <https://www.hpe.com/us/en/support.html> or <https://www.hpe.com/us/en/services/operational.html>

Recommended HPE Pointnext operational services for optimal satisfaction with your HPE product

Recommended Services **3-Year HPE 24x7 4 hour Response, Hardware Support Onsite Service**

Provides you with rapid remote support and if required a Hewlett Packard Enterprise Authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

HPE ProLiant Server Hardware Installation

Provides for the basic hardware installation of Hewlett Packard Enterprise branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

3-Year HPE 6 hour Hardware Support Onsite Call-to-Repair Service

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HPE Global Solution Center

HPE Proactive Select Service

Provides a flexible way to purchase HPE best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

HPE Pointnext operational services	HPE Install Universal Power Supply 3KVA to Below 6KVA Service	U4693E
	HPE Install Universal Power Supply Less Than 3KVA Service	U4690E

HPE Model Matrix

HPE T750 G5 UPS Model					
Part Number	Operating Voltage	Default Voltage Setting	Power Out (VA/Watts)	Input Connection	Output Connection
Q1F47A (North America/Japan)	120V/125V 100V	120V	750VA/600W 625VA/500W	Attached NEMA 5-15 Plug type power cord, 16AWG	8 – NEMA 5-15 receptacles
Q1F48A International	220V/230V/240V	230V	850VA/600W	C14 Inlet (For detachable country specific power cord	6 – IEC C13 receptacles
HPE T1000 G5 UPS Model					
Part Number	Operating Voltage Settings	Default Voltage Setting	Power Out (VA/Watts)	Input Connection	Output Connection
Q1F49A (North America/Japan)	120V/125V 100V	120V	1000VA/770W 833VA/641W	Attached NEMA 5-15 Plug type power cord, 16AWG	8 – NEMA 5-15 receptacles
Q1F50A International	220V/230V/240V	230V	1150VA/770W	C14 Inlet (For detachable country specific power cord	8 – IEC C13 receptacles
HPE T1500 G5 UPS Model					
Part Number	Operating Voltage Settings	Default Voltage Setting	Power Out (VA/Watts)	Input Connection	Output Connection
Q1F51A (North America/Japan)	120V/125V 100V	120V	1440VA/1100W 1080VA/825W	Attached NEMA 5-15 Plug type power cord, 14AWG	8 – NEMA 5-15 receptacles
Q1F52A International	220V/230V/240V	230V	1500VA/1100W	C14 Inlet (For detachable country specific power cord	8 – IEC C13 receptacles
NOTE: Voltage is user selectable via LCD Front Display Panel					

Estimated Backup Times

Battery runtimes are approximate and may vary with equipment, configuration, battery age, temperature, etc.		
Tower UPS Models		
Load (Percent)	Load (Watts)	Estimated battery runtime at 100% battery charge (Minutes)
T750 UPS		
10%	53W	68
20%	105W	37
30%	158W	21
40%	210W	16
50%	263W	15
60%	315W	10
70%	368W	9
80%	420W	7
90%	473W	7
100%	525W	6
T1000 UPS		
10%	70W	65
20%	140W	32
30%	210W	21
40%	280W	16
50%	350W	12
60%	420W	10
70%	490W	9
80%	560W	8
90%	630W	7
100%	700W	6
T1500 UPS		
10%	108W	80
20%	216W	36
30%	324W	23
40%	432W	16
50%	540W	13
60%	648W	10
70%	756W	9
80%	864W	7
90%	972W	7
100%	1080W	6

Environmental and Certifications

Environment-friendly Products and Approach **End-of-life Management and Recycling**

Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

<https://www.hpe.com/us/en/about/environment/product-recycling.html>

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.

<https://www.hpe.com/us/en/about/environment/product-recycling.html>

Summary of Changes

Date	Version History	Action	Description of Change
02-Apr-2018	Version 1	New	New QuickSpecs



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