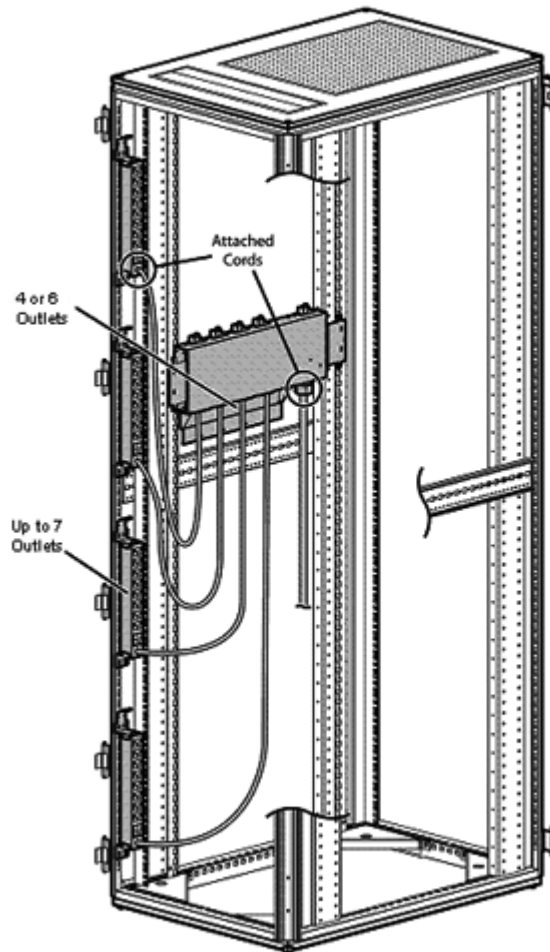


Overview

HP Modular PDUs have a unique modular architecture designed specifically for data center customers who want to maximize power distribution and space efficiencies in the rack. Modular PDUs consist of two building blocks - the Control Unit (core) and the Extension Bar(s) (sticks). The Control Unit is 1U/0U, and the Extension Bars mount directly to the frame of the rack in multiple locations. Available models range from 16A to 48A current ratings, with output connections ranging from four outlets up to 28 outlets. Single phase and three phase core only units have IEC C-19 outlets on the control unit for BladeSystems as well as larger ProLiant, Integrity and HP9000 servers requiring this type of connection.



What's New

- New 40 amp 3 phase Modular PDU is a Core Only form factor that connects to a 50 amp 3 phase circuit using the popular CS8365C connector. The new 3 Phase Modular PDU provides 14.4kVA of power and has 6 C19 outputs for connection to a variety of HP equipment. Optional Extension bars can be added to provide up to 42 C-13 outlet per core unit.

Models

North America, Japan, and South America (Except Argentina and Chile)

100 - 127v 1Ø	HP 2.8kVA 24A Low Voltage NA/JP Modular Power Distribution Unit	252663-D71
200 - 240v 1Ø	HP 3.6kVA 16A High Voltage INTL Modular Power Distribution Unit	252663-B24
	HP 4.9kVA 24A High Voltage NA/JP Modular Power Distribution Unit	252663-D72
	HP 8.3kVA 40A High Voltage INTL Modular Power Distribution Unit	252663-B21
	HP 8.3kVA 40A High Voltage NA/JP Modular Power Distribution Unit	252663-D73
	HP 8.3kVA 40A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D75
	HP 4.9kVA 24A High Voltage NA/JP Core Modular Power Distribution Unit	252663-D74
200 - 240v 3Ø	HP 8.6kVA 24A Three Phase NA/JP Modular Power Distribution Unit	AF512A
	HP 14.4kVA 40A Three Phase NA/JP Modular Power Distribution Unit	AF519A
	HP 17.3kVA 48A Three Phase NA/JP Modular Power Distribution Unit	AF511A

International (Including Argentina and Chile)

200 - 240v 1Ø	HP 3.6kVA 16A High Voltage INTL Modular Power Distribution Unit	252663-B24
	HP 8.3kVA 40A High Voltage INTL Modular Power Distribution Unit	252663-B21
	HP 7.3kVA 32A High Voltage INTL Modular Power Distribution Unit	252663-B31
	HP 9.2kVA 40A High Voltage INTL Modular Power Distribution Unit	252663-B32
	HP 9.2kVA 40A High Voltage INTL Core Modular Power Distribution Unit	252663-B34
	HP 7.3kVA 32A High Voltage INTL Core Modular Power Distribution Unit	252663-B33
380 - 415v 3Ø	HP 11kVA 16A Three Phase INTL Modular Power Distribution Unit	AF513A
	HP 22kVA 32A Three Phase INTL Core Modular Power Distribution Unit	AF518A

* These Modular Distribution Unit Kits are "core only" and do not include any PDU extension bars.



Standard Features

Features List

- Single input power distribution units with a unique modular design architecture
- Up to 28 outlet receptacles
- Zero-U/1U dense rack form factor
- Easily accessible outlet receptacles and improved cable management
- Models range from 2.8kVA to 22kVA

Key Features

2.8 kVA to 9.2kVA 1Ø models

- Unique modular design architecture
- Small form factor with flexible mounting options
- Up to 4 PDU extension bars
- Easy installation
- Consolidate and maximize cord management
- Easily accessible outlets

8.6 kVA to 22 kVA 3Ø models

- Unique modular design architecture
- Small form factor with flexible mounting options
- Up to 6 C19 outlet receptacles

Easy installation in 1U or Zero U configurations

Unique Modular Design Architecture

Modular PDUs have unique modular design architecture. This "Building block" concept consists of two main parts, the Control Unit, and the Extension Bar(s). The modular PDUs ship with one Control Unit and up to 4 Extension Bars. The Control Unit is zero-U or 1U rack mountable. Extension Bars mount directly to the rack-frame or the rack extension unit.

1Ø Modular PDUs

- Each Control Unit is a single-phase unit that branches out to either 2 or 4 single-phase branch circuits.
- The PDU extension bars can be plugged into the Control Unit, and can be mounted directly to the rack frame, spanning the entire length of the rack.

3Ø Modular PDUs

- Each Control Unit is a three-phase input that branches out to 6 single-phase branch circuits.
- Optional extension bars can be added to provide C13 outlets

NOTE: See [model selection matrix](#) below for extension bars which come with each



Standard Features

Up to 6 PDU Extension Bars

- **8.6 kVA to 22 kVA 3 phase Models**
 - Each core only 3 phase unit has six IEC C-19 outputs. These Modular PDUs are ideal for BladeSystems and larger ProLiant, Integrity and HP9000 servers that use C-20 inputs. Up to 6 extension bars can be added to all 3 phase core only units to increase flexibility.
- **3.6 kVA to 9.2 kVA 200 - 240V Models**
 - Modular PDUs offer up to four C-13 extension bars with (7) C13 receptacles. Each extension bar is rated up to 16A (3.6kVA), and has a light on the extension bar indicating the power is on.
- **2.8 kVA 100-127v Model**
 - This Modular PDU offers four Nema 5-15P extension bars with (7) NEMA 5-15P receptacles. Each extension bar is rated up to 16A (1.9kVA (Please see note below), and has a lighted on/off switch on the extension bar.

NOTE: The low voltage extension bars are rated at 1.9kVA, but each C-19 receptacle on the core unit of the 2.8 kVA PDU has a 12A circuit breaker (15A circuit breaker derated to 12A). Therefore the most power an extension bar can draw is 1.4kVA.

Easy Installation

Installation is quick and easy. Whether you choose to mount the Modular PDU in zero-U or 1U, all required mounting brackets, accessories, and installation instructions are shipped with the product. The Extension Bars come with easy to use, snap-in brackets, which fit directly into the rack frame of HP 9000, 10000, and 10000 G2 Series racks.

Compatibility

Ideal for use with the HP 9000, 10000, and 10000 G2 Series Racks, the Modular PDUs are largely designed for the dense rack environment. These Modular PDUs connect directly to the facility input power.

Warranty Upgrade Options

HP Modular PDUs are backed by a limited 3-year warranty. When used in the HP 9000, 10000, and 10000 G2 Series Racks, HP PDUs assume the warranty of the HP Rack in which they're installed. HP Care Pack services bought for the HP Rack also extend towards the HP Modular PDU if it is being used inside the HP rack.



Service and Support

HP Care Pack Services

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMWare-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>



Related Options

Related Options

HP Two C-13 PDU Extension Bars	HP Two C13 PDU Extension Bar NOTE: Each extension bar has a C-19 input and 7 C-13 receptacles. The option is ideal for core only models of the modular PDUs	AF500A
HP Two Fixed Cord Extension Bars	HP Fixed Cord Extension Bars NOTE: Each extension bar has a C-19 input and 7 C-13 receptacles on 13 inch cords attached to the extension bars. The option is ideal for powering 1U servers and components.	351655-B21
HP Care Pack Services	HP Install Rack and Rack Options Service	U2871A
	HP Install Rack and Rack Options Service	U2871E



Modular PDU Family Information

Model Selection Matrix

HP Modular PDUs with Extension Bars

	2.8 kVA PDU	3.6 kVA PDU	4.9 kVA PDU	7.3 kVA PDU	9.2 kVA PDU	8.3 kVA PDU	9.2 kVA PDU
Part Number	252663-D71	252663-B24	252663-D72	252663-B31	252663-B21	252663-D73	252663-B32
Input Connection (Single Input)	NEMA L5-30P	Detachable input power cord with an IEC 320-C20 inlet*	NEMA L6-30P	IEC 309-32A (IEC 332P6S)	Field Wired Terminal	Non-NEMA Locking CS8265C, 50A	IEC 60309 63A (IEC 363P6S)
* The detachable cord can be used only in applications where the total leakage current is less than 3.5 mA.							
Output Connections on Modular PDU core	4 IEC 320 C-19	2 IEC 320 C19	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19
Extension Bars	4 with 7 NEMA 5-15R*	2 with 7 IEC 320 C-13 receptacles	4 with 7 IEC 320 C-13 receptacles	4 with 7 IEC 320 C-13 receptacles	4 with 7 IEC 320 C-13 receptacles	4 with 7 IEC 320 C-13 receptacles	4 with 7 IEC 320 C-13 receptacles
Total Receptacles	28 NEMA 5-15R	14 IEC 320 C-13	28 IEC 320 C-13	28 IEC 320 C-13	28 IEC 320 C-13	28 IEC 320 C-13	28 IEC 320 C-13
* The low volt Extension Bars w/5-15 outlets should be used ONLY with the low volt Control Unit that is shipped with the low volt Modular PDU unit.							
Current (max)	24A	16A	24A	32A	40A	40A	40A
AC Voltage Range	100-127V	200-240V	200-240V	200-240V	200-240V	200-240V	200-240V
Frequency (Hertz)	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Load Capacity (VA)	2880 (@120V)	3680 (@230V)	4992 (@208V)	7360 (@230V)	9200 (@230V)	8320 (@208V)	9200 (@230V)
Output Circuit Breakers	4x15A	2x10A	4x15A	4x15A	4x15A	4x15A	4x15A
Overload Protection	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group
Indicator Light on main AC Pilot light on the Control Unit	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Plugs and Cables							
Control Unit	Input: 3.6m attached cable with L5-30P	Input: Detachable input power cord (country specific) with a IEC320 C-20 inlet	Input: 3.6m attached cable with L6-30P	Input: 3.6m attached cable with IEC309-32A, Splashproof (IEC 332P6S)	Input: Hardwire	Input: Attached Input cord, Non-NEMA Locking CS8265C, 50A	Input: Attached Input cord, IEC 60309 63A, Splashproof (IEC 363P6S)
Facility power	NEMA L5-30R	Country specific	NEMA L6-30R	IEC60309 2	Hard wired to	Non-NEMA	IEC60309 2



Modular PDU Family Information

connection	Can also connect directly to the HP R3000 low voltage UPS	Can also connect directly to the HP R3000 High Voltage UPS*		pole, 3 wire, 200- 240VAC, 32A IEC 332C6S, 332R6S, or equivalent	facility power**	CS8264C or CS8269, 50A or equivalent	pole, 3 wire, 200- 240VAC, 63A IEC 363C6S, 363R6S, or equivalent
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* For the UPS R3000, North America high volt model an additional cable option kit, PN AF593A (IEC320-C-19 to L6-20P), is needed to connect a 16A mPDU to the NA high voltage model of the UPS R3000. This cable is also used to connect the PDU to facility power in North America.

** Hardwiring of PN 252663-B21, the 40A Modular PDU, needs to be done by a certified on-site electrician in accordance with the local electrical installation codes) into the facility input.

Extension Bars	Input: 2m attached cord with IEC320-C-20. Output: Each Bar has 8 NEMA 5-15 outlets (12A max per outlet, 12A max per Bar).	Input: 2m attached cord with IEC320-C-20. Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar).	Input: 2m attached cord with IEC320-C-20. Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar).	Input: 2m attached cord with IEC320-C-20. Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar).	Input: 2m attached cord with IEC320-C-20. Output: 4 Bars each with 7 C-13 (10A max per outlet, 16A max per Bar); 1 Bar with 4 C-19 (12A max per outlet, 12A max per Bar).	Input: 2m attached cord with IEC320-C-20. Output: 4 Bars each with 7 C-13 (10A max per outlet, 16A max per Bar)	Input: 2m attached cord with IEC320-C-20. Output: 4 Bars each with 7 C-13 (10A max per outlet, 16A max per Bar)
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Core Only Modular PDUs

	4.9 kVA PDU	7.3 kVA PDU	8.3 kVA PDU	9.2 kVA PDU	8.6 kVA PDU	11 kVA PDU	14.4 kVA	17.3kVA PDU	22 kVA PDU
Part Number	252663-D74	252663-B33	252663-D75	252663-B34	AF512A	AF513A	AF519A	AF511A	AF518A
Input Connection (Single Input)	Input: 3.6m attached cable with L6-30P	Input: 3.6m attached cable with IEC309-32A, Splashproof (IEC 332P6S)	Input: 3.6m Attached Input cord, Non-NEMA Locking CS8265C, 50A	Input: 3.6m Attached Input cord, IEC 60309 63A, Splashproof (IEC 363P6S)	Input: 3.6m Attached input cord, NEMA L15-30P	Input: 3.6m Attached Input cord, IEC 60309 4 pole, 5 wire, 380-415VAC, 16A, Splashproof (IEC 516P6S)	Input: 3.6m Attached input cord, CS8365C plug	Input 3.6m Attached Input cord IEC 60309 3 pole, 4 wire 200-240VAC 60A Waterproof (IEC 460P9W)	Input: 3.6m Attached Input cord, IEC 60309 4 pole, 5 wire, 380-415VAC, 32A, Waterproof (IEC 532P6W)
Facility power connection	NEMA L6-30R	IEC60309 2 pole, 3 wire, 200-240VAC, 32A IEC 332C6S, 332R6S, or	Non-NEMA CS8264C or CS8269, 50A or equivalent	IEC60309 2 pole, 3 wire, 200-240VAC, 63A IEC 363C6S, 363R6S, or	208V 3 phase 3 pole 4 wire (Delta) NEMA L15-30R	IEC60309 4 pole, 5 wire, 380-415 VAC, 16A IEC 516C6S, 516R6S, or	208V 3 phase 3 pole 4 wire (Delta) CS8364C, CS8369, or equivalent	IEC60309 3 pole, 4 wire, 208VAC 60A IEC 460C9W, 460R9W, or equivalent	4 pole, 5 wire, 380-415 VAC, 32A IEC 532C6W, 532R6W, or



Modular PDU Family Information

		equivalent		equivalent		equivalent			equivalent
Output Connections on Modular PDU core	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19
Extension Bars	None	None	None	None	None	None	None	None	None
Total Receptacles	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	4 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19
Current (max)	24A	32A	40A	40A	41.52A, 13.84A/phase	16A	69A, 23A/phase	83.04A 27.68/phase	32A phase
AC Voltage Range	200-240V	200-240V	200-240V	200-240V	208v 3Ø Delta	380-415v 3Ø Wye	208v 3Ø Delta	208v 3Ø Delta	380-415v 3Ø Wye
Frequency (Hertz)	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Load Capacity (VA)	4992 (@208V)	7360 (@230V)	8320 (@208V)	9200 (@230V)	8600 (@208V)	11000 (@230v)	14393 (@208V)	17300 (@208V)	22000 (@230V)
Output Circuit Breakers	4x15A	2x10A	4x15A	4x15A	6 X 20A	6 X 16A	6 X 20A	6 X 20A	6 X 16A
Overload Protection	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group	Yes, per load group

HP Power Cables	Cable	Description	Part Number
IEC C-13	4.5 ft (1.37 m), x15	HP IEC320-C14 to C13 10A/4.5ft/1.37m/ 15 PDU Cable	142257-007
	4.5 ft (1.37 m), x1	HP IEC320-C14 to C13 (10A/4.5ft/1.37m) PDU Cable	142257-006
	1.6 ft (0.5m) x1	HP IEC C13-C14 Cable Option Kit	142257-B28
	8 ft (2.5m) x1	HP IEC320-C14 to C13 (10A/8ft/2.5m) PDU Cable	142257-002
	6 ft (1.83m) x1	HP 1.83m 10A C13 Power Cord	AF556A
IEC C-19	8 ft (2.5m) x 1	HP 1xC19-C120 16A 2.5m Cable	295633-B22
	12 ft (3.66m) x1	HP 3.6m C19 NEMA L6-20P NA/JP Power Cord	AF593A

Please refer to the Power Cord Matrix for more information on power cords/cable part numbers, input/output descriptions.
<http://www.hp.com/go/powercordmatrix>.

Disclaimer: HP makes no recommendations regarding power connector manufactures. The model numbers listed in the above tables are strictly for the purpose of providing examples. Please consult a licensed professional to determine the best connector or receptacle for your specific needs.



Technical Specifications

All PDUs

Shipping Weight	20.2 lb (9.16 kg)
Operating Temperature	50° to 122° F (10° to 50° C)
Operating Relative Humidity (%)	10% to 90%
Operating Elevation	0 to 10,000 ft (0 to 3048 m)
Storage Temperature	-4° to 140° F (-20° to 60° C)
Storage Relative Humidity (%)	5% to 95%
Storage Elevation	0 to 30,000 ft (0 to 9144 m)
Input Plug Length	142 inches (360.7 cm)
Conformance Standards	UL, CUL, CE, NOM, D - 16A and 40A models UL, CUL, NOM - 24A High and Low voltage models CE, D - 32A model

1Ø 2.8kVA to 9.2kVA

Mechanical Dimensions (WxHxD)	17.5 x 1.62 x 5.6 in (44.45 x 4.11 x 14.22 cm)
Unit Weight	18 lb (8.16 kg)
Shipping Dimensions (WxHxD)	21.5 x 12.25 x 13.0 in (54.61 x 31.12 x 33.02 cm)

3Ø 8.6 kVA to 22 kVA

Mechanical Dimensions (WxHxD)	17.5 x 1.62 x 7.5 in (44.45 x 4.11 x 19.22 cm)
Unit Weight	20 lb (9.07 kg)
Shipping Dimensions (WxHxD)	21.5 x 12.25 x 15.0 in (54.61 x 31.12 x 38.1 cm)
Shipping Weight	22.2 lb (10.07 kg)

Kit Contents

All Modular PDUs	All models ship with: 0U/1U Mounting brackets/hardware for Control Unit Cord Retention bracket for the Control Unit Tie wraps Install Card
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SKU Specific Kit Contents

252663-D71	2.8kVA ship with 1.x Control Unit and 4 x NEMA 5-15P Extension Bars
252663-B34	3.6kVA, 16A Modular PDU ship with 1 x Control Unit and 2 x Extension Bars, and country specific power cord, Mounting brackets for Extension Bars
252663-B21	9.2kVA, "field wire" Modular PDU ship with 1 x Control Units, 4 x C-13 Extension Bars, Mounting brackets for Extension Bars
252663-D72, 252663-D73, 252663-B31, 252663-B32	ship with 1 x Control Unit and 4 x C-13 Extension Bars, Mounting brackets for Extension Bars
252663-B33, 252663-B34, 252663-D74, 252663-D75, AF512A, AF513A, AF511A, AF518A, and AF519A	ship with 1 x Control Unit



Technical Specifications

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) 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 web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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