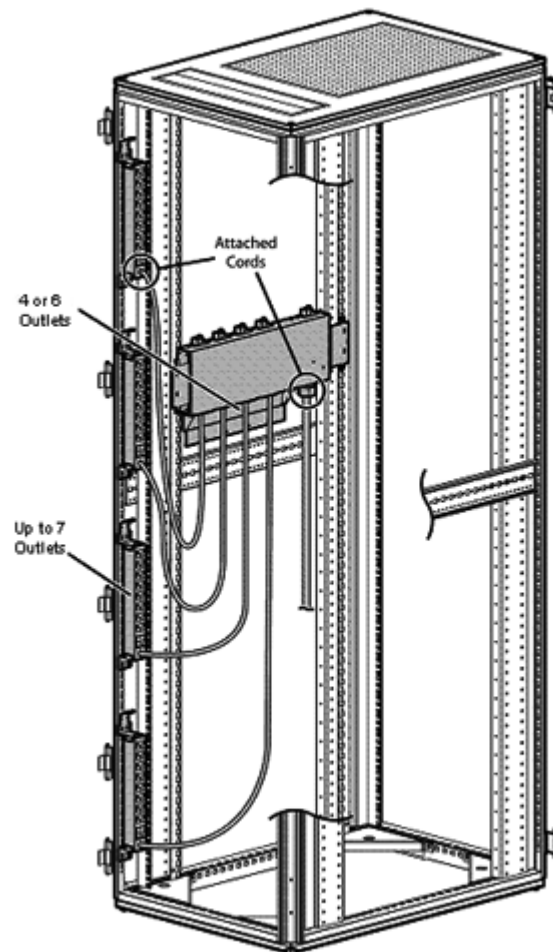*Overview*

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 |
| | 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 9.2kVA1Ø 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**<br>   ○ 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.<br>• **3.6 kVA to 9.2 kVA 200 - 240V Models**<br>   ○ 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.<br>• **2.8 kVA 100-127v Model**<br>   ○ 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.<br><br>**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.<br>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 | AF500A |
| | **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 | |
| **HP Two Fixed Cord Extension Bars** | HP Fixed Cord Extension Bars | 351655-B21 |
| | **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. | |
| **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 | HP 9.2kVA 40A High Voltage INTL Modular Power Distribution Unit | 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 | Input: 3.6m attached cable with L6-30P | Input: 3.6m attached cable with IEC309- | Input: Hardwire | Input: Attached Input cord, Non-NEMA | Input: Attached Input cord, IEC 60309 63A, |

## Modular PDU Family Information

| | | cord (country specific) with a IEC320 C-20 inlet | | 32A, Splashproof (IEC 332P6S) | | Locking CS8265C, 50A | Splashproof (IEC 363P6S) |
|---|---|---|---|---|---|---|---|
| Facility power connection | NEMA L5-30R<br><br>Can also connect directly to the HP R3000 low voltage UPS | Country specific<br><br>Can also connect directly to the HP R3000 High Voltage UPS* | NEMA L6-30R | IEC60309 2 pole, 3 wire, 200- 240VAC, 32A<br><br>IEC 332C6S, 332R6S, or equivalent | Hard wired to facility power** | Non-NEMA CS8264C or CS8269, 50A or equivalent | IEC60309 2 pole, 3 wire, 200- 240VAC, 63A<br><br>IEC 363C6S, 363R6S, or equivalent |

\* 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.<br>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.<br>Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar). | Input: 2m attached cord with IEC320-C-20.<br>Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar). | Input: 2m attached cord with IEC320-C-20.<br>Output: Each Bar has 7 C-13 outlets (10A max per outlet, 16A max per Bar). | Input: 2m attached cord with IEC320-C-20.<br>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.<br>Output: 4 Bars each with 7 C-13 (10A max per outlet, 16A max per Bar) | Input: 2m attached cord with IEC320-C-20.<br>Output: 4 Bars each with 7 C-13 (10A max per outlet, 16A max per Bar) |
|---|---|---|---|---|---|---|---|

## 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 | HP 22kVA 32A Three Phase INTL Core Modular Power Distribution Unit | 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, | Input: 3.6m Attached Input cord, CS8365C plug | Input 3.6m Attached Input cord IEC 60309 3 pole, 4 wire 200-240VAC 60A | Input: 3.6m Attached Input cord, IEC 60309 4 pole, 5 wire, 380-415VAC, 32A, |

# QuickSpecs

## Modular PDU Family Information

| | | | | | | Splashproof (IEC 516P6S) | | Waterproof (IEC 460P9W) | Waterproof (IEC 532P6W) |
|---|---|---|---|---|---|---|---|---|---|
| Facility power connection | NEMA L6-30R | IEC60309 2 pole, 3 wire, 200-240VAC, 32A IEC 332C6S, 332R6S, or equivalent | Non-NEMA CS8264C or CS8269, 50A or equivalent | IEC60309 2 pole, 3 wire, 200-240VAC, 63A IEC 363C6S, 363R6S, or equivalent | 208V 3 phase 3 pole 4 wire (Delta) NEMA L15-30R | IEC60309 4 pole, 5 wire, 380-415 VAC, 16A IEC 516C6S, 516R6S, or equivalent | 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 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 |

*Modular PDU Family Information*

| 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.

# QuickSpecs

*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 |

**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. |