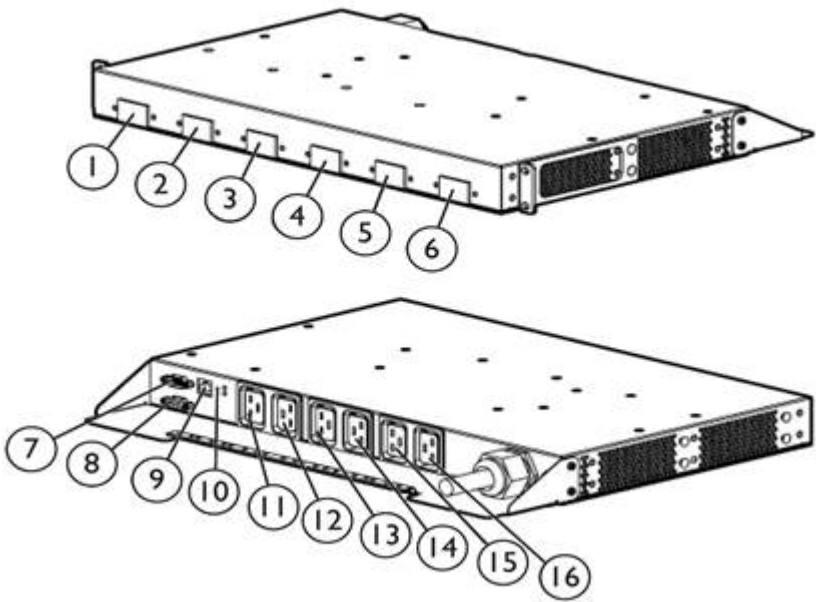Overview

HPE Intelligent Power Distribution Unit (PDU)

You cannot control what you cannot monitor. The new HPE Intelligent Power Distribution Unit (PDU) brings state of the art management and control to rack mounted PDUs to prevent over provisioning of power which may restrict growth in your data center.

Using core and stick architecture, the HPE Intelligent PDU provides monitoring of power consumption at the core, load segment, stick, and outlet level with unmatched precision and accuracy. Remote management is built in and even provides power cycle ability of individual outlets on the Intelligent Extension Bars. Hewlett Packard Enterprise is also the first to incorporate Power Discovery Services, which when combined with the Hewlett Packard Enterprise line of Platinum or Platinum Plus high efficiency power supplies, communicates with the attached servers to collect asset information for the automatic mapping of the power topology inside a rack, speeding implementation time and greatly reducing the risk of human errors that can cause power outages.

Intelligent PDU 6 Outlet Core Unit

| 1-6.	Load segment circuit breakers, one per IEC C19	9.	Network connection (RJ-45)
7.	LED Display Connection (DB-9)	10.	Reset button (recessed)
8.	For future use (DB-9)	11-16.	IEC C19 Load segment outlets

Overview
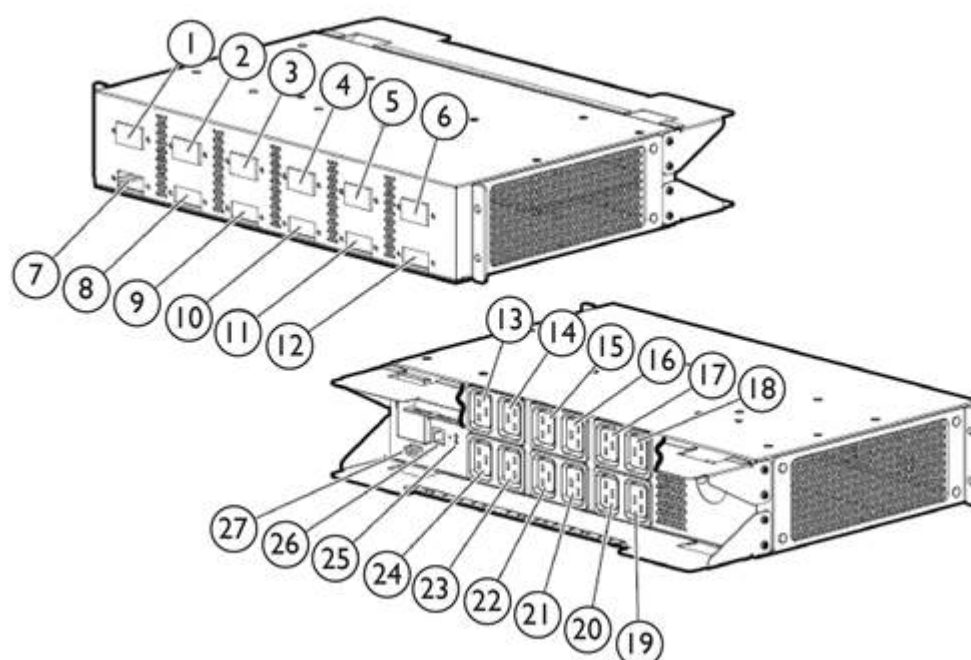
Intelligent PDU 12 Outlet Core Unit

1-12.	Load segment circuit breakers, one per IEC C19	26.	Network connection (RJ-45)
13-24	IEC C19 Load segment outlets	27.	LED Display Connection (DB-9)
25.	Reset button (recessed)		
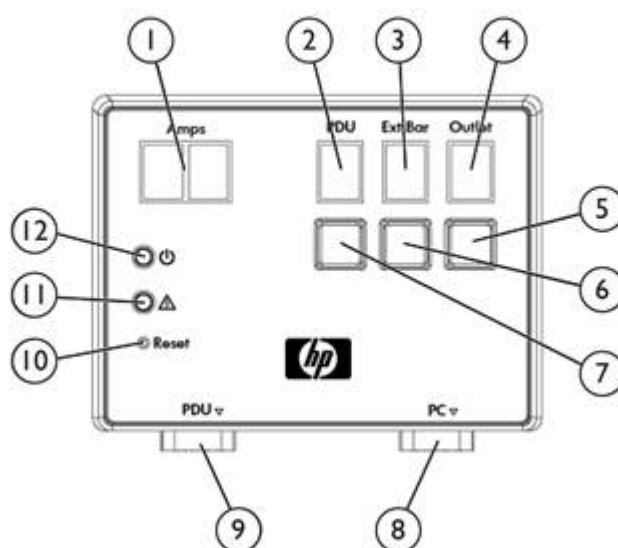
Intelligent PDU rear mount LED Display

1.	Multi segment LED for amperage display	7.	Scroll button for PDU Core Unit selection
2.	Multi segment LED for PDU Core Unit identification	8.	DB-9 for firmware updates
3.	Multi segment LED for Load segment /Extension Bar identification number	9.	DB-9 for connection to PDU Core Unit
4.	Multi segment LED for outlet identification number (Intelligent Extension bars only)	10.	Recessed reset button
5.	Scroll button for outlet selection (intelligent Extension bars only)	11.	Alarm indicator
6.	Scroll button for load segment/extension bar selection	12.	Power Indicator

Overview
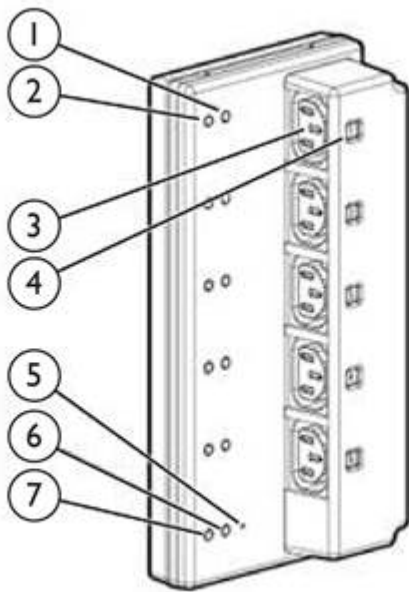
Intelligent Extension Bar G2 for PDU

1. Outlet UID indicator (blue LED)
2. Outlet Status indicator (red/green LED)
3. 5x Individually monitored and switchable IEC C13 outlets with PLC connectors
4. Outlet number ID window (changes based on orientation)

5. Reset button
6. Extension Bar UID indicator (blue LED)
7. Power on indicator for Intelligent Extension Bar (green LED)
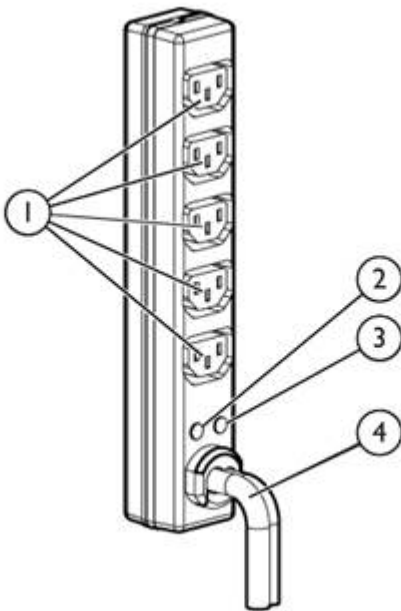
Standard Extension Bar for PDU

1. 5 x IEC C13 outlets
2. Extension Bar power indicator (green LED)

3. Extension Bar UID indicator (blue LED)
4. Inlet cord with IEC C19 PLC connector to attach to PDU Core Unit

Models

PDU Core Units

NOTE: Each PDU Core has 6 or 12 IEC C19 outlets and includes the LED display unit.

NOTE: 6 outlet PDU cores can be mounted in 1U or 0U locations. 12 outlets PDU cores require 2U of rack space.

Single Phase, Modular (1U)

HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF520A
HPE Intelligent Modular 8.3kVA/CS8265C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF521A
HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF525A

Three Phase, Modular (1U)

HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF522A
HPE Intelligent Modular 3Ph 14.4kVA/CS8365C 40A/208V Outlets (6) C19/Horizontal NA/JP PDU	AF533A
HPE Intelligent Modular 3Ph 17.3kVA/60309 60A 4-wire 48A/208V (6) C19/Horizontal NA/JP PDU	AF523A
HPE Intelligent Modular 3Ph 11kVA/L22-20P 16A/240V Outlets (6) C19/Horizontal NA/JP PDU	AF900A
HPE Intelligent Modular 3Ph 17.3kVA/60309 30A 5-wire 24A/240V (6) C19/Horizontal NA/JP PDU	AF901A
HPE Intelligent Modular 3Ph 11kVA/60309 5-wire 16A/230V Outlets (6) C19/Horizontal INTL PDU	AF526A
HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU	AF527A

Three Phase, Modular (2U)

HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 60A 4-wire 48A/208V (12) C19/Horizontal NA/JP PDU	AF535A
HPE Intelligent Modular 3Ph 17.3kVA/IEC 60309 30A 5-wire 24A/240V (12) C19/Horizontal NA/JP PDU	AF537A
HPE Intelligent Modular 3Ph 22kVA/60309 5-wire 32A/230V Outlets (12) C19/Horizontal INTL PDU	AF538A

PDU Kits with Standard Extension Bars

NOTE: PDU Kits include one Core Unit, LED Display, and 4 Standard (non-intelligent) Extension Bars. Total outlets would be 20 IEC C13 and 2 IEC C19 per kit. Additional Standard or Intelligent Extension bars can be added for a maximum of 30 IEC C13 outlets.

Single Phase, Modular (1U)

HPE Intelligent Modular 4.9kVA/L6-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF531A
HPE Intelligent Modular 7.3kVA/60309 3-wire 32A/230V Outlets (6) C19/Horizontal INTL PDU Kit	AF534A

Three Phase, Modular (1U)

HPE Intelligent Modular 3Ph 8.6kVA/L15-30P 24A/208V Outlets (20) C13 (6) C19/Horizontal NA/JP PDU	AF532A

Models

Related Options

PDU Extension Bars	HP 5xC13 Intelligent PDU Extension Bar G2 Kit	AF547A

NOTE: Contains 2 Intelligent PDU Extension Bars.

NOTE: Intelligent Extensions Bars have individually monitored outlets that are also individually switchable for power cycling attached equipment. Each individual C13 outlet has Power Line Communications to support Intelligent Power Discovery when connected to PLC enabled common slot power supplies.

HPE 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar

HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

NOTE: Standard (non-intelligent) Extension Bars are monitored as a single load segment and do not support Intelligent Power Discovery. Standard Extension Bars for HPE PDUs include a blue unit ID LED (UID) which helps associate the load segment being monitored with the Extension bar.

PDS Enabled power cables with power line communications (PLC)	HP C13 - C14 WW 250V 10Amp IPD 0.76m 1pc Jumper Cord	SG506A
	HP C13 - C14 WW 250V 10Amp IPD 0.76m 5pc Jumper Cord	SG507A
	HP C13 - C14 WW 250V 10Amp IPD 1.37m 1pc Jumper Cord	SG508A
	HP C13 - C14 WW 250V 10Amp IPD 1.37m 5pc Jumper Cord	SG509A
	HP C13 - C14 WW 250V 10Amp IPD 1.83m 1pc Jumper Cord	SG510A
	HP C13 - C14 WW 250V 10Amp IPD 1.83m 5pc Jumper Cord	SG511A
	HP C13-C14 WW 250V 10Amp Pwr Line 2.5m 1pc Jumper Cord	D9Y24A
	HP C13-C14 WW 250V 10Amp Pwr Line 2.5m 5pc Jumper Cord	D9Y25A
	HP C13 - C14 WW 250V 10Amp IPD 3.0m 1pc Jumper Cord	SG512A
	HP 1.37m 250V 16A C19-C20 WW Single IPD Enabled Jumper Cord	TK744A
	HP 1.37m 250V 16A C19-C20 WW 3PC Kit IPD Enabled Jumper Cord	TK745A
	HP 2.0m 250V 16A C19-C20 WW Single IPD Enabled Jumper Cord	TK738A
	HP 2.0m 250V 16A C19-C20 WW 3PC Kit IPD Enabled Jumper Cord	TK739A
	HPE C19-C20 8ft Single Power Line Communications Power Cable	TK740K
	HP 2.5m 250V 16A C19-C20 WW 3PC Kit IPD Enabled Jumper Cord	TK741A
	HP 3.0m 250V 16A C19-C20 WW Single IPD Enabled Jumper Cord	TK742A
	HP 3.0m 250V 16A C19-C20 WW 3PC Kit IPD Enabled Jumper Cord	TK743A

NOTE: PLC power cables are designated by bright blue IEC connectors.

NOTE: C13-C14 PLC power cables enable Power Discovery Services communications between HPE Common Slot Platinum or Platinum Plus Power Supplies and the HPE Intelligent Extension Bars when used with the HPE Intelligent PDU cores.

NOTE: C19-C20 PLC power cables enable Power Discovery Services communications between HPE BladeSystem c7000 Platinum Enclosure and HPE Intelligent PDU cores.

Product Highlights

Key Features	• Unique modular design architecture • Up to 2 PDU cores can be connected serially to work off of the same IP address or local display • Small form factor with flexible mounting options • 6 and 12 IEC C19 outlet models • IEC C19 outlets accept optional PDU Extension Bars or direct IEC C20 cable connections for HPE BladeSystems Enclosures • Automatic 100mS per outlet start delay on Intelligent Extension Bar • User configurable restart delay by Intelligent Extension Bar outlet from 0-999 seconds • Secure Web Browser user interface. • Individual outlet control and monitoring on Intelligent Extension Bars • Individual outlet monitoring on PDU core. • Easy installation • Consolidated cord management and retention • Easily accessible outlets • All outlets can be used with either Power Discovery Services (PDS) enabled power cables or standard IEC jumper cables. Power Discovery Services requires PDS enabled power cables and Common Slot Platinum or Platinum Plus Power Supplies with PLC connectors on ProLiant DL servers or BLc Single Phase Intelligent Power Module equipped HPE BladeSystem c7000 Platinum Enclosures.

Unique Modular Design Architecture	The Hewlett Packard Enterprise Intelligent PDUs have a patented modular architecture that improves their flexibility. This "Building block" concept consists of two main parts, the PDU Core Unit, and the Extension Bar(s). The HPE Intelligent PDUs ship with one Core Unit, the mountable LED display and mounting hardware. The 6 outlet Core Unit is zero-U or 1U rack mountable. The 12 outlet core unit is 2u rack mountable. Optional Extension Bars mount directly to the rack-frame or the rack extension unit. PDU Core Units • Each PDU Core Unit incorporates an embedded web engine for remote monitoring and control and includes the LED display unit for local monitoring of current at the rack. • Core units can be mounted in zero U configurations in HPE Advanced Series Racks or in 1U configurations in any industry standard rack. • Core units are available in a variety of single phase or three phase inputs to match any application. • Each core unit has individually monitored IEC C19 outlets that are individually protected by high quality commercial grade breakers. • Each IEC C19 on the HPE Intelligent PDU incorporates out of band power line communications (PLC) technology to communicate with either the Standard Extension Bars or the Intelligent Extension bars. • The PDU extension bars can be plugged into the Core Unit, and can be mounted directly to the rack frame, spanning the entire length of the rack. LED Monitoring Display • Each Intelligent PDU Core Unit includes a LED Display for local monitoring of power

Product Highlights

consumption at the rack.

- LED Displays are mountable on the inside rear door of the rack.
- LED Displays have an external alert indicator that is visible from the rear of the rack with doors closed.
- LED Displays show power draw (amperage) at the PDU and can scroll through individual C19 outlet (load segments), and individual C13 outlets on the Intelligent Extension Bars.

PDU Standard Extension Bars

- All PDU Extension bars are sold in pairs.
- Each Extension bar has five IEC C13 outlets for connection to external equipment.
- Extension Bars can be mounted in the rear of the rack to ease cable management.
- Individual extension bars do not extend into the maintenance zone between RETMA rails at the rear of the rack.
- Extension Bars have power indicators and UID LEDs
- Extension bars have bright blue PLC IEC C20 input connectors for use with HPE Intelligent PDU Core Units.

Intelligent PDU Extension Bars G2

- Each Intelligent Extension Bar is 5U in height and has 5 individually monitored and switchable IEC C13 outlets.
- Each IEC C13 outlet has a status indicator and UID LED that is activated when scrolling through the local display unit or remotely via the embedded web engine.
- Each IEC C13 on the Intelligent Extension Bar incorporates bright blue PLC connections to communicate with HPE Common Slot Platinum Power Supplies with PLC.
- Standard IEC C14 jumper cables can be used with the Intelligent Extension bars for powering non-IPD enabled devices.
- Each IEC C13 outlet on the Intelligent Extension Bar is capable of remote power cycling or remote lock out to prevent unauthorized equipment from being installed in the rack.
- Each IEC C13 outlet on the Intelligent Extension Bar has an automatic 100mS per outlet start delay and can be user programmed for restart delays of up to 999 seconds on a per outlet basis.
- The Intelligent Extension Bar G2 has an automatic outlet numbering systems that maintains consistent outlet identification so that Outlet Number 1 will always be the top of the Extension Bar independent of which side of the rack the Intelligent Extension Bar G2 is mounted on.
- The inlet cable on the Intelligent Extension Bar G2 has been moved to the back of the bar to ease installation and improve cable routing to the PDU Core.

Standard PDU Extension Bars (non-intelligent)

- Standard Extension Bars can be mounted side by side for high density or redundant applications.
- Standard Extension bars are monitored as a single load segment of 5 x C13 outlets at the IEC C19 outlet on the Intelligent PDU Core Unit.
- Standard Extension Bars have a power indicator and UID LED that is activated when scrolling through the local display unit or remotely via the embedded web engine.

Product Highlights

Power line communications (Power Discovery Services (PDS) enabled) power cables

- Each PDS enabled power cable incorporates RS232 serial connections to enable Power Discovery Services.
- Power Discovery Services uses out of band power line communications to transfer server identity information between the HPE Common Slot Platinum Power Supplies and the HPE Intelligent PDU's Intelligent Extension Bars and automatically maps the server to outlets on the PDU.
- PDS enabled cables and connectors conform to standard IEC specifications and sizes.
- When combined with HPE ProLiant rack mount servers all outlets can be used with either PDS enabled power cables or standard IEC jumper cables. Power Discovery Services requires PDS enabled power cables and Common Slot Platinum or Platinum Plus Power Supplies with PLC connectors on ProLiant DL servers or BLc Single Phase Intelligent Power Module equipped HPE BladeSystem enclosures such as the c7000 Platinum Enclosures.
- Available in a wide range of lengths for C13-C14 jumper cables for ProLiant servers and C19-C20 jumper cables for BladeSystems c7000 Platinum Enclosures. If cable management arms are used a combination of 4.5ft and 6ft cables should be used to reach Intelligent Extension Bars mounted on alternate sides of a rack up to 1 meter deep. A combination of 6ft and 8ft or 8ft and 10ft cables should be used for deeper racks.

Accuracy, Precision, and Reporting

- Voltage accuracy within:
  - 1% at 200-240 volt input
- Current accuracy within:
  - 1% >1A
  - 3% 400mA-1A
  - 5% 100mA-400mA
  - 10% <100mA
- Wattage accuracy within 1 watt at > 20mA
- Precision
  - 0.5 Second data collection for Voltage, Amperage, Wattage, VA, and Power Factor.
- Reporting
  - 2 digit local display for amperage by PDU core, load segment, or individual Intelligent Extension Bar outlet
  - Remote reporting of Voltage, Amperage, Wattage, VA, and Power Factor down to 0.01 amp, 0.1volt measured by load segment and by individual Intelligent Extension Bar outlet

Power Discovery Services

- Power Discovery Services automatically senses new equipment as it is plugged into the PDU to map power connections and changes, insure redundancy, and configure PDU and Systems Insight Manager with minimal manual configuration reducing human errors that can cause unplanned outages.
- Automatic discovery -When ProLiant servers with Platinum or Platinum Plus Common Slot Power Supplies are connected to an PDU Intelligent Extension Bar using PDS Enabled power cables the PDU automatically records the server name, server type, iLO IP address, and the Unique Universal Identification (UUID) number

-

Product Highlights

and maps the server to the connected outlets.
- Assisted discovery - The PDU will detect non PDS enabled and third party equipment when they are plugged in and highlight the outlets on the management screens. Asset and identification information for non PDS enabled and third party equipment must be manually entered into the PDU Management Screens.
- Once stored the PDU will detect and track changes in the power plug locations based on the UUID information.
- This information can be automatically forwarded to Insight Control eliminating human errors in configuration and speeding implementation.
- Unused Intelligent Extension Bar C13 outlets can be disabled globally with a button click to prevent unplanned devices from using empty outlets and protect breakers.

Redundancy and Grouping	- Two PDUs can be paired to 2 other PDUs in the same rack for redundancy.
	- HPE Intelligent Extension Bars connected to PDU Cores enable outlet grouping on a single PDU, outlet pairing on redundant PDUs, and power redundancy verification. All based on UUID information obtained automatically.
	- Paired PDUs can recognize redundant Platinum Common Slot Power Supplies in ProLiant servers and ensure they are plugged into different PDU Intelligent Extension bars on different PDU cores for true power redundancy.
	- Redundant Platinum Common Slot Power Supplies in ProLiant servers are automatically paired across multiple grouped PDUs or grouped on a single PDU to ease management and reduce potential errors during configuration.
	   o Up 8 outlets can be paired together across multiple grouped PDUs or grouped on a single PDU.
	   o If PDUs are paired outlets must be paired across both PDUS and cannot be grouped on a single PDU.
	   o If redundant Platinum Common Slot Power Supplies in ProLiant servers are not connected correctly across multiple grouped PDUs a redundancy failure warning will be issued by flashing the outlet UID LEDs on the Intelligent Extension Bars and via SNMP and email alerts.
	   o Paired outlets on grouped PDUs can be power cycled simultaneously from either PDU via a single control button in the remote management interface.
	   o Grouped outlets on a single PDU can be power cycled simultaneously via a single control button in the remote management interface. Automatically discovered servers and assisted discovery devices benefit from all the redundancy management features

Security	- SSL 3.0/TLS 1.0 (168 bit TLS-RSA-with-3DES-EDE-CBC-SHA data encryption). X.509 certificate - Certificate Authority (CA) or self-signed certificates can be uploaded
SNMP and email alerts	- The PDU provides detailed SNMP and email alerts showing alert origination by PDU , load segment, and outlet as well as alert description, value, and trigger. - The PDU allows SNMP queries for data collection.
Configuration Options	Depending on the level of monitoring and control needed there are 3 basic configurations for the HPE PDU.

Product Highlights

- Core Only: provide highly accurate power monitoring of each C19 outlet.
- Core and Standard Extension bars: Provides highly accurate power monitoring at the C19 level as a load segment of five C13 outlets each.
- Core and Intelligent Extension Bars: provides highly accurate power monitoring and remote switching of each individual C13 outlet on the Intelligent Extension Bars. This configuration also enables Power Discovery Services when combined with the Common Slot Platinum or Platinum Plus Power Supplies.

PDS C13 Jumper Cable Guidelines	Rack Depth	Recommended C13-C14 cable length	
		Left rear	Right rear
	One meter or shorter with cable management arms	4.5ft (1.37m)	6ft (1.83m)
	One meter or shorter without cable management arms	2.5ft (0.76m)	2.5ft (0.76m)
	Deeper than one meter with cable management arms	6ft (1.83m)	8ft (2.43m)
	Deeper than one meter without cable management arms	4.5ft (1.37m)	2.5ft (0.76m)

NOTE: Recommended lengths are from server power supplies on the right rear of servers to Intelligent Extension Bars mount at the same U height.

Easy Installation	Installation is quick and easy. Whether you choose to mount the Intelligent PDU core 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 HPE 10000 G2, Advanced Series, and Enterprise Series Racks.

Compatibility	Ideal for use with the 10000 G2, Advanced Series, and Enterprise Series Racks, the Intelligent PDUs are largely designed for the dense rack environment. These Intelligent PDUs connect directly to the facility input power.

Warranty	Standard three year warranty with first year including parts and labor. HPE UPSs are backed by a standard three year limited warranty; 3 year parts, 1 year Labor, 1 year onsite.

Service and Support

Service and Support	**Protect your business beyond warranty with HPE support services** When you buy Hewlett Packard Enterprise Options, it's also a good time to think about what level of service you may need. Hewlett Packard Enterprise support services provide total care and support expertise with committed response choices designed to meet your IT and business need.
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. http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE **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 http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN
	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 http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN **HPE Proactive Select Service** Provides a flexible way to purchase Hewlett Packard Enterprise 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. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN
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, Foundation Care and Service Contract offers.
Parts and materials	Hewlett Packard Enterprise will provide Hewlett Packard Enterprise-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. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.
Coverage	For ProLiant servers and storage systems, this service covers Hewlett Packard Enterprise-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

Service and Support

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 Hewlett Packard Enterprise due to malfunction. It does not apply to any exchange of 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 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.

Model Selection Matrix

Intelligent PDU (6) Outlet Core Units

	4.9 kVA PDU Core	8.3 kVA PDU Core	8.6 kVA PDU Core	14.4kVA PDU Core	17.3 kVA PDU Core	7.3 kVA PDU Core	11 kVA PDU Core	22kVA PDU Core
Part Number	AF520A	AF521A	AF522A	AF533A	AF523A	AF525A	AF526A	AF527A
Input Connection (Single Input)	3.6m input cord with L6-30P	3.6m input cord with Non-NEMA Locking CS8265C, 50A	3.6m input cord with NEMA L15-30P	3.6m input cord with Non-NEMA Locking CS8365C, 50A	3.6m input cord with IEC-60309 3 pole, 4 wire 200-240VAC 60A Waterproof	3.6m input cord with IEC 60309-32A Splash proof	3.6m input cord with IEC-60309 4 pole, 5 wire, 380-415VAC, 16A, Splash proof	3.6m input cord with IEC-60309 4 pole, 5 wire, 380-415VAC, 32A, Splash proof
Facility power connection	NEMA L6-30R	Non-NEMA CS8264C or CS8269, 50A or equivalent	NEMA L15-30R 200-208V 3 phase 3 pole 4 wire Delta	CS8364C, CS8369, or equivalent 200-208V 3 phase 3 pole 4 wire Delta	IEC 460C9W, 460R9W, or equivalent IEC60309 3 pole, 4 wire, 200-208VAC 60A 3 Phase Delta	IEC 332C6S, 332R6S, or equivalent IEC60309 2 pole, 3 wire, 200-240VAC, 32A	IEC 516C6S, 516R6S, or equivalent IEC60309 4 pole, 5 wire, 380-415 VAC, 16A 3 Phase Wye	IEC 532C6W, 532R6W, or equivalent IEC60309 4 pole, 5 wire, 380-415 VAC, 32A 3 Phase Wye
Output Connections on PDU core	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	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19
Extension Bars	Optional on all Core Only Models, maximum 3 pair per PDU Core							
Current (max)	24A	40A	41.52A	69A	83.04A	32A	16A/Phase	32A /phase
AC Voltage Range	200-208V	200-208V	200-208V 3 Phase Delta	200-208V 3 Phase Delta	200-208V 3 Phase Delta	200-240V	380-415V 3 Phase Wye	380-415V 3 Phase Wye
Frequency (Hertz)	60Hz	60Hz	60Hz	60Hz	60Hz	50Hz	50Hz	50Hz
Load Capacity (VA)	4992 (@208V)	8320 (@208V)	8600 (@208V)	14393 (@208V)	17272 (@208V)	7360 (@230V)	11000 (@400v)	22000 (@400V)
Output Circuit Breakers	6 X 20A	6 X 20A	6 X 20A	6 X 20A	6 X 20A	6 X 16A	6 X 16A	6 X 16A

Model Selection Matrix

Overload Protection	Yes, per individual IEC C19 outlet on Core Unit

Intelligent PDU Core Units, 415 Volt North America

	11.5 kVA PDU Core	17.3 kVA PDU Core
Part Number	AF900A	AF901A
Input Connection (Single Input)	3.6m input cord with NEMA L22-20P	3.6m input cord with IEC 530P6S Splash proof
Facility power connection	NEMA 22-20R 400-415 VAC 30A 3 Phase Wye	IEC 530C6S or equivalent IEC60309 4 pole, 5 wire, 380-400-415 VAC 30A 3 Phase Wye
Output Connections on PDU core	6 IEC 320 C-19	6 IEC 320 C-19
Extension Bars	Optional on all Core Only Models, maximum 3 pair per PDU Core	
Current (max)	27.71A	41.52A
AC Voltage Range	380-415V 3 Phase Wye	380-415V 3 Phase Wye
Frequency (Hertz)	60Hz	60Hz
Load Capacity (VA)	11,500 (@415V)	17,250 (@415V)
Output Circuit Breakers	6 X 20A	6 X 20A
Overload Protection	Yes, per individual IEC C19 outlet on Core Unit	

Intelligent PDU (12) Outlet Core Units

	17.3 kVA 208V PDU Core	17.3 kVA 415V PDU Core	22 kVA 400V PDU Core
Part Number	AF535A	AF537A	AF538A
Input Connection (Single Input)	3.6m input cord with IEC-60309 3 pole, 4 wire 200-240VAC 60A Waterproof	3.6m input cord with IEC 530P6S Splash proof	3.6m input cord with IEC-60309 4 pole, 5 wire, 380-415VAC, 32A, Splash proof
Facility power connection	IEC 460C9W, 460R9W, or equivalent IEC60309 3 pole, 4 wire, 200-208VAC 60A 3 Phase Delta	IEC 530C6S or equivalent IEC60309 4 pole, 5 wire, 380-400-415 VAC, 30A 3 Phase WYE	IEC 532C6W, 532R6W, or equivalent IEC60309 4 pole, 5 wire 380-415 VAC, 32A 3 Phase Wye
Output Connections on PDU core	12 IEC 320 C-19	12 IEC 320 C-19	12 IEC 320 C-19
Extension Bars	Optional on all Core Only Models, maximum 6 pair per PDU Core		
Current (max)	83.04A	41.52A	32A /phase
AC Voltage Range	200-208V 3 Phase Delta	380-415V 3 Phase Wye	380-415V 3 Phase Wye
Frequency (Hertz)	60Hz	60Hz	50Hz
Load Capacity (VA)	17292 (@208V)	17,250 (@415V)	22000 (@400V)
Output Circuit Breakers	12 X 20A	12 X 20A	12 X 16A
Overload Protection	Yes, per individual IEC C19 outlet on Core Unit		

Model Selection Matrix

Intelligent PDU Kits (includes 4 Standard Extension Bars)

	4.9 kVA PDU Kit	8.6 kVA PDU Kit	7.3 kVA PDU Kit
Part Number	AF531A	AF532A	AF534A
Input Connection (Single Input)	3.6m input cord with L6-30P	3.6m input cord with NEMA L15-30P	3.6m input cord with IEC 60309-32A Splash proof
Facility power connection	NEMA L6-30R 200-208V	NEMA L15-30R 208V 3 phase 3 pole 4 wire Delta	IEC 332C6S, 332R6S, or equivalent IEC60309 2 pole, 3 wire, 200- 240VAC, 32A
Output Connections on PDU core	6 IEC 320 C-19	6 IEC 320 C-19	6 IEC 320 C-19
Extension Bars	4 Standard Extension Bars w/ 5x C13 each	4 Standard Extension Bars w/ 5x C13 each	4 Standard Extension Bars w/ 5x C13 each
Total outlets		20 x IEC C13, 2x IEC C19	
Current (max)	24A	41.52A	32A
AC Voltage Range	200-208V	208V 3 Phase Delta	220-240V
Frequency (Hertz)	60Hz	60Hz	50Hz
Load Capacity (VA)	4992 (@208V)	8600 (@208V)	7360 (@230V)
Output Circuit Breakers	6 X 20A	6 X 20A	6 X 16A
Overload Protection		Yes, per individual IEC C19 outlet	

HPE Power Cables	Cable	Description	Part Number
IEC C-13	4.5 ft (1.37 m), x15	HP C13 - C14 WW 250V 10Amp 1.4m 15 pc Jumper Cord	142257-007
	4.5 ft (1.37 m), x1	HP C13 - C14 WW 250V 10Amp 1.4m Jumper Cord	142257-006
	1.6 ft (0.5m) x1	HP C13 - C14 WW 250V 10Amp 0.7m Jumper Cord	142257-B28
	8 ft (2.5m) x1	HP C13 - C14 WW 250V 10Amp 2.5m Jumper Cord	142257-002
	NOTE: Standard power cables and jumpers do not support Power Line Communications or Power Discovery Services.		
IEC C-19	8 ft (2.5m) x 1	HP C19 - C20 WW 250V 16Amp 2.5m Jumper Cord	295633-B22
	NOTE: Standard power cables and jumpers do not support Power Line Communications or Power Discovery Services.		

Disclaimer: Hewlett Packard Enterprise makes no recommendations regarding power connectors. 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.

Model Selection Matrix

Voltage	Amps	# Wires	Plug Name	Sample Plug Image (color may vary by manufacturer)	
100-125V Single Phase	20 A	3	NEMA L5-20P		
	30 A	3	NEMA L5-30P		
	20 A	3	IEC C20		
200-240V Single Phase	20 A	3	NEMA L6-20P		
	30 A	3	NEMA L6-30P		
	32 A	3	IEC 309 32A, 2Pole, 3Wire		
208V Three Phase	20 A	5	NEMA L21-20P		
	16 A	5	IEC 309 16 A, 3Pole, 5Wire		
	30 A	5	NEMA L21-30P		
	50 A	4	CS8365C		
	60 A	4	IEC 309 60A, 3Pole, 4Wire		
400 - 415V Three Phase	32 A	5	IEC 309 32 A, 3Pole, 5Wire		

Technical Specifications

Shipping Weight	6 outlet: 20.2 lb (9.16 kg), 12 outlet: 36.4 lb (16.51 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
Mechanical Dimensions (WxHxD), 6 outlet cores	17.5 x 1.62 x 7.5 in (44.45 x 4.11 x 19.22 cm)
Unit Weight, 6 outlet cores	20 lb (9.07 kg)
Shipping Dimensions (WxHxD), 6 outlet cores	21.5 x 12.25 x 15.0 in (54.61 x 31.12 x 38.1 cm)
Shipping Weight, 6 outlet cores	22.2 lb (10.07 kg)
Mechanical Dimensions (WxHxD), 12 outlet cores	17.5 x 3.28 x 7.5 in (44.45 x 8.4 x 19.22 cm)
Unit Weight, 12 outlet cores	32 lb (14.52 kg)
Shipping Dimensions (WxHxD), 12 outlet cores	21.5 x 12.9 x 18.2 in (54.61 x 32.76 x 46.3 cm)
Shipping Weight, Outlet cores	36.4 lb (16.51 kg)
Kit Contents	PDU Core Unit, Rear mount LED Display, mounting brackets, Serial cables
All PDU Core Units	All models ship with: 0U/1U Mounting brackets/hardware for Control Unit Cord Retention bracket for the Control Unit Tie wraps Install Card
PDU Kit Contents	AF531A, AF532A, and AF534A Include Core Unit, LED Display, and 4 Standard Extension Bars plus all mounting hardware.

Technical Specifications

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett Packard Enterprise offers end-of-lifeHewlett Packard Enterpriseproduct 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 Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise 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 Enterprise web site at: http://www.hp.com/go/green. 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
16-Feb-2016	From Version 10 to 11	Changed	Overview, Models, Product Highlights, Service and Support, Model Selection Matrix, and Technical Specifications were updated.
17-Feb-2015	From Version 9 to 10	Added	Added note to HPE 5xC13 Intelligent PDU Extension Bar G2 Kit clarifying the SKU contains 2 Intelligent PDU Extension Bars.
07-Mar-2014	From Version 8 to 9	Changed	Updates were made throughout,
09-Dec-2013	From Version 7 to 8	Changed	Updated What's New to: New 8 foot Power Line Communications Power Cable for use in deeper racks.
			Changes made in the Models, throughout Related Options and Family Information.
06-Mar-2012	From Version 6 to 7	Changed	Updates were made throughout, except in Service and Support.
30-Aug-2011	From Version 5 to 6	Changed	Power Supplies and HPE Care Pack Services were completely revised
			Extension Bars was revised throughout the Model Selection Matrix
			What's New was added to the Overview
			Intelligent Extension Bar G2 for PDU was added throughout
			11.4kVA PDU Core, 415V, 16A Three Phase NEMA L22-20 input, 17.3kVA PDU Core, 415V, 24A Three Phase NEMA L22-30 input and 17.3kVA PDU Core, 415V, 24A Three Phase IEC 530P6S input were added to Models
			Configuration Options was added to Product Highlights
			Intelligent PDU core only units, 425 Volt chart was added to Intelligent PDU Family Information
01-Jul-2011	From Version 4 to 5	Changed	Service and Support section revised.
20-Jun-2011	From Version 3 to 4	Changed	Model and Related Option product descriptions were revised

Summary of Changes

12-Jul-2010	From Version 2 to 3	Changed	Key Features and Warranty were moved into Product Highlights Changed descriptions and part numbers in the Common Slot Platinum Power Supplies with PLC connectors section.

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