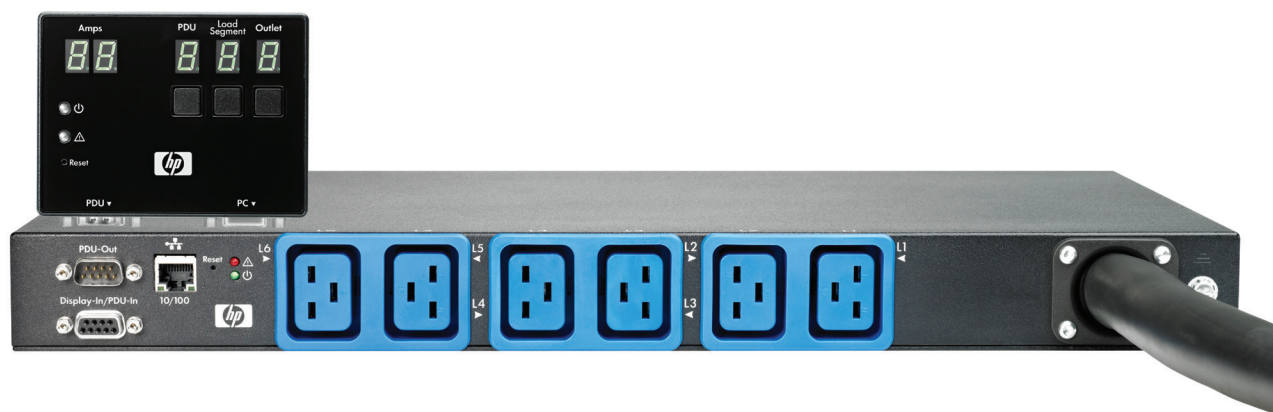


HPE Intelligent Power Distribution Units

State-of-the-art management and control to help you avoid downtime



Highlights

- Unique modular design architecture
- Small form factor with flexible mounting options
- Individual outlet monitoring
- Up to two iPDU cores can be connected serially to work off of the same IP address or local display
- IEC C19 outlets accept optional iPDU extension bars or direct IEC C20 cable connections for HPE BladeSystem enclosures
- Automatic 100 ms start delay and user-configurable restart delay from 0–999 seconds with intelligent extension bar
- Individual outlet control and monitoring with intelligent extension bar
- Consolidated cord management and retention
- All outlets can be used with PDS-enabled or standard IEC jumper cables.¹

¹ PDS 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.

You cannot control what you cannot monitor. HPE Intelligent Power Distribution Units (iPDUs) bring state-of-the-art management and control to rack-mounted power distribution units, to prevent over-provisioning of power from restricting growth in your data center.

Using a 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 (PDS), which, when combined with HPE Platinum or Platinum Plus high-efficiency power supplies, allow the iPDU to communicate with the attached servers to collect asset information. This allows 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.

Unique modular design architecture

The patented modular architecture of HPE iPDUs enhances their flexibility. The core and stick “building block” concept consists of two main parts: the iPDU Core Unit and the extension bar(s). Depending on the level of monitoring and control needed, there are three basic configurations for the HPE iPDU.

- **Core only**—Provides 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 PDS when combined with HPE Common Slot Platinum or Platinum Plus power supplies.

HPE Power Discovery Services

HPE PDS automatically senses new equipment as it is plugged into the iPDU to map power connections and changes, ensure redundancy, and configure iPDU and Systems Insight Manager (SIM) with minimal manual configuration, reducing errors that can lead to downtime. It does this via:

- **Automatic discovery**—When HPE ProLiant servers with Platinum or Platinum Plus Common Slot power supplies are connected to an iPDU intelligent extension bar using PDS-enabled power cables, the iPDU automatically records the server name, server type, iLO IP address, and the unique universal identification (UUID) number and maps the server to the connected outlets.
- **Assisted discovery**—The iPDU will detect non-PDS enabled and third-party equipment when it is 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 iPDU Management Screens.

Once stored, the iPDU will detect and track changes in the power plug locations based on the UUID information. This information can be automatically forwarded to HPE Insight Control, eliminating human errors in configuration and speeding implementation. Unused intelligent extension bar C13 outlets can be disabled globally with the click of a button to prevent unplanned devices from using empty outlets and protect breakers.

iPDU: Key features and benefits

Power monitoring precision

- HPE Power Discovery Services with Intelligent Power Discovery can automatically discover and map servers to specific outlets, ensuring pinpoint accuracy of power data collected
- With 99% accuracy above one watt, the iPDU can help you track and control power other PDUs will not be able to monitor
- Information is gathered from all monitoring points at half-second intervals for the highest precision
- Current draw can be measured below 100 mw, so the iPDU can detect a new server even before it is powered on

Flexibility

- Mountable in 1U or zero U spaces to save valuable rack space
- Flexible mounting of extension bars eases cable management
- Allows for mixing different type of extension bars on a PDU core to provide a mix of outlet types
- Power consumption displayed for the core, stick, and outlet levels at the rack or remotely from standard Web browsers
- Remotely control power per outlet or even per pair of outlets for redundantly powered equipment

Protection

- Individual breakers for each load segment prevent a problem on one segment from causing a power outage on the entire PDU
- SNMP and email alerts notify operators of impending issues that could cause a power outage
- Locking out individual outlets prevents unauthorized equipment from overloading PSUs or circuits
- Intelligent Power Discovery can automatically detect power configuration errors and notify operators

Intelligent PDU technical specifications

PART NUMBER	REGION	FORM FACTOR	VA RATING	INPUT CIRCUIT	INPUT PLUG	OUTLETS	EXTENSION BARS
200–240 V single-phase							
AF520A	NA/JPN	Modular	4.9 kVA	24 A, 200–208 V, single phase	NEMA L6-30p	6 x IEC C19	Core only
AF521A	NA/JPN	Modular	8.3 kVA	40 A, 200–208 V, single-phase	Non-NEMA CS8265C	6 x IEC C19	Core only
AF525A	INTL	Modular	6.3 kVA	32 A, 220–240 V, single-phase	IEC 309 332P6, 3-wire, 2-pole 32 A	6 x IEC C19	Core only
AF531A	NA/JPN	Modular	4.9 kVA	24 A, 200–208 V, single-phase	NEMA L6-30p	6 x IEC C19 20 x IEC C13	Core, standard, or intelligent
AF534A	INTL	Modular	7.3 kVA	32 A, 220–240 V, single-phase	IEC 309 332P6, 3-wire, 2-pole 32 A	6 x IEC C19 20 x IEC C13	Core, standard, or intelligent
200–240 V three-phase							
AF522A	NA/JPN	Modular	8.6 kVA	24 A, 200–208 V, 3-phase Delta	NEMA L15-30P	6 x IEC C19	Core only
AF523A	NA/JPN	Modular	17.3 kVA	48 A, 200–208 V, 3-phase Delta	IEC 60309 60 A 4-wire watertight	6 x IEC C19	Core only
AF532A	NA/JPN	Modular	8.6 kVA	24 A, 200–208 V, 3-phase Delta	NEMA L15-30P	6 x IEC C19 20 x IEC C13	Core, standard, or intelligent
AF533A	NA/JPN	Modular	14.4 kVA	40 A, 200–208 V, 3-phase Delta	Non-NEMA CS8365C	6 x IEC C19	Core only
AF535A	NA/JPN	Modular, horizontal 2U	17.3 kVA	48 A, 200–208 V, 3-phase Delta	IEC 60309 60 A 4-wire watertight	12 x IEC C19	Core only
AF537A	NA/JPN	Modular, horizontal 2U	17.3 kVA	24 A, 200–240/380–415 V, 3-phase Wye	IEC 60309 30 A 5-wire	12 x IEC C19	Core only
AF538A	INTL	Modular, horizontal 2U	22 kVA	32 A, 380–415 V, 3-phase Wye	IEC 309 532P6, 5-wire, 4-pole 32 A	12 x IEC C19	Core only
AF900A	NA/JPN	Modular	11 kVA	16 A, 200–240/380–415 V, 3-phase Wye	NEMA L22-20	6 x IEC C19	Core only
AF901A	NA/JPN	Modular	17.3 kVA	24 A, 200–240/380–415 V, 3-phase Wye	IEC 60309 30 A 5-wire	6 x IEC C19	Core only
400 V three-phase							
AF526A	INTL	Modular	11 kVA	16 A, 380–415 V, 3-phase Wye	IEC 309 516P6, 5-wire, 4-pole 16 A	6 x IEC C19	Core only
AF527A	INTL	Modular	22 kVA	32 A, 380–415 V, 3-phase Wye	IEC 309 532P6, 5 wire, 4-pole 32 A	6 x IEC C19	Core only
Intelligent Power Distribution Unit (iPDU) options							
iPDU extension bars (in pairs)							
AF547A	HPE 5 x C13 Intelligent PDU extension bar G2 Kit						
AF528A	HPE 5 x C13 outlets power and UID LEDs pair standard extension bar						
Power line communication (IPD) power							
SG506A	2.5 ft (.76 m) C13–C14 IPD power cable, single			TK745A	4.5 ft (1.3 m) C19–C20 IPD power cable, three pack		
SG507A	2.5 ft (.76 m) C13–C14 IPD power cable, five pack			TK738A	6.5 ft (2 m) C19–C20 IPD power cable, single		
SG508A	4.5 ft (1.3 m) C13–C14 IPD power cable, single			TK739A	6.5 ft (2 m) C19–C20 IPD power cable, three pack		
SG509A	4.5 ft (1.3 m) C13–C14 IPD power cable, five pack			TK740K	8 ft (2.5 m) C19–C20 IPD power cable, single		
SG510A	6 ft (1.8 m) C13–C14 IPD power cable, single			TK741A	8 ft (2.5 m) C19–C20 IPD power cable, three pack		
SG511A	6 ft (1.8 m) C13–C14 IPD power cable, five pack			TK742A	10 ft (3 m) C19–C20 IPD power cable, single		
SG512A	10 ft (3 m) C13–C14 IPD power cable, single			TK743A	10 ft (3 m) C19–C20 IPD power cable, three pack		
TK744A	4.5 ft (1.3 m) C19–C20 IPD power cable, Single			TK743A	10 ft (3 m) C19–C20 IPD power cable, three pack		

HPE Financial Services

Optimize your IT investment strategy with new ways to acquire, pay for and use technology, in lock-step with your business and transformation goals.

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Ease of use

- All hardware is included and compatible with industry standard racks
- Simply assign the iPDU an IP address and you're ready to go
- Automatically detected by HPE SIM and HPE Insight Control

HPE Insight Control

HPE Insight Control is essential server management software that helps deploy servers quickly, manage the health of virtual or physical servers proactively, control servers remotely, and streamline power consumption. Insight Control's power management integrates seamlessly with IPD to automatically discover and map the power distribution inside a rack.

HPE Common Slot Platinum and Platinum Plus power supplies

Choose any of the Common Slot Platinum power supply or Common Slot Platinum Plus power supplies, rated as the most efficient in the industry with a power efficiency of at least 94%. This efficiency level is the highest rating recognized by 80 PLUS and Electric Power Research Institute (EPRI). All of these power supplies are Platinum-certified through the ECOS/80 PLUS certification program.

HPE BladeSystem Enclosure support

By adding the new Intelligent AC module to any HPE BladeSystem c7000 enclosure enables HPE Intelligent Power Discovery when connected directly to any six- or 12-outlet iPDU core unit. IPD will automatically detect where the c7000 enclosure is plugged in and ensure redundancy across iPDU inputs.

HPE Services

When technology works, business works

The challenge of virtually every IT organization is similar: to develop and maintain an agile, efficient server infrastructure that delivers the service levels your business needs. HPE Technology Services offer a comprehensive portfolio of HPE Care Pack Services to help design, deploy, manage, and support your IT environment, enabling cost-effective upgrades to standard warranty with easy-to-buy, easy-to-use support packages.

Rack option hardware support

HPE Foundation Care supports rack-mounted HPE ProLiant DL servers, storage products, and all HPE-branded rack hardware options that qualify for inclusion with your server at the time of or after purchase. Additionally, 22-inch and smaller external monitors, power distribution units, and uninterruptible power supply (UPS) options up to 12 kVA are covered under the same service level as the server for up to three years from the date of purchase at no additional cost.

For more information, visit: ssc.hpe.com



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