QuickSpecs
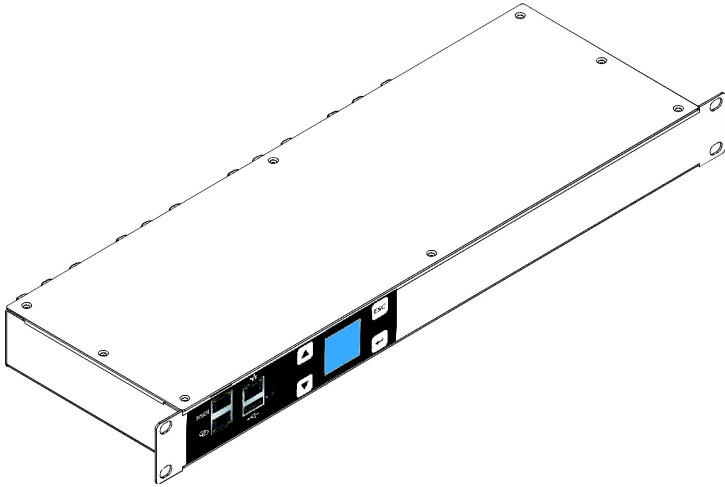
Overview

HP Remote Monitoring Power Distribution Units (PDU) provide rack level power monitoring over the network. With billing grade accuracy these PDUs are excellent choices for data centers wanting to make the most of circuit capacity or for co-location facilities needing to precisely track power usage for billing purposes.
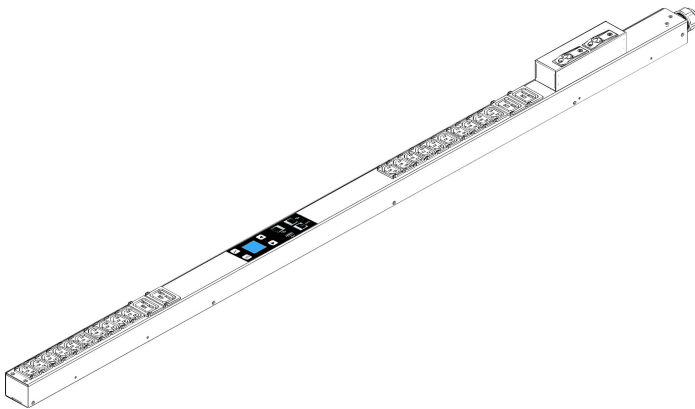
The low profile single piece design on these PDU's provides multiple mounting options and ease of access to rear devices for maintenance. They are designed for HP racks but will also work in a large variety of third party racks as well using standard button and keyhole mounting. They can be installed on either side of the rack with outlets facing the back of the rack for easy access and improved clearance. Also for higher power density they can be installed side by side on both sides of the rack with the outlets facing in towards the center of the rack. HP Remote Monitored PDUs are available in 1U and vertical form factors in single and 3-phase models and are back by HP's limited 3-year warranty.
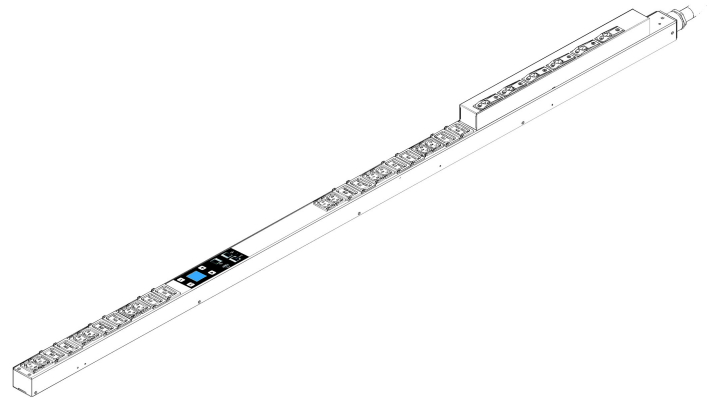

Monitored PDU, 1UModels (D9N46A shown)

Monitored PDU, Half Height Models (D9N45A shown)

Monitored PDU, Mid Height Models (D9N47A/D9N48A shown)

Monitored PDU, Full Height Models (D9N58A/D9N59A shown)

QuickSpecs

Models

HP Remote Monitoring Power Distribution Units	**HP Remote Monitored PDU: 1U Models**	
	HP 2.8kVA 120 Volt 12 Outlet NA/JP Monitored Power Distribution Unit	D9N43A
	HP 3.6kVA 200-240 Volt 12 Outlet WW Monitored Power Distribution Unit	D9N46A
	HP 4.9kVA 208 Volt 12 Outlet NA/JP Monitored Power Distribution Unit	D9N44A
	HP Remote Monitored PDU: Half Height Models	
	HP 3.6kVA 200-240 Volt 16 Outlet WW Monitored Power Distribution Unit	D9N45A
	HP Remote Monitored PDU: Mid Height Models	
	HP 4.9kVA 208 Volt 24 Outlet NA/JP Monitored Power Distribution Unit	D9N47A
	HP 5.7kVA 208 Volt Three Phase 21 Outlet NA/JP Dual Voltage Monitored Power Distribution Unit	D9N52A
	HP 8.6kVA 208 Volt Three Phase 24 Outlet NA/JP Dual Voltage Monitored Power Distribution Unit	D9N53A
	HP 8.6kVA 208 Volt Three Phase 21 Outlet NA/JP Monitored Power Distribution Unit	D9N51A
	HP Remote Monitored PDU: Full Height Models	
	HP 8.3kVA 208 Volt 33 Outlet NA Monitored Power Distribution Unit	D9N49A
	HP 14.4kVA 208 Volt Three Phase 24 Outlet NA Monitored Power Distribution Unit	D9N58A
	HP 16.6kVA 400 Volt Three Phase 24 Outlet NA Monitored Power Distribution Unit	D9N62A
	HP 16.6kVA 400 Volt Three Phase 33 Outlet NA Monitored Power Distribution Unit	D9N61A
	HP 17.3kVA 208 Volt Three Phase 24 Outlet NA/JP Monitored Power Distribution Unit	D9N59A
	HP 17.3kVA 208 Volt Three Phase 27 Outlet NA/JP Monitored Power Distribution Unit	D9N54A
	HP 19.9kVA 480 Volt Three Phase 30 Outlet NA Monitored Power Distribution Unit	D9N63A

Standard Features

Key Features List	- Remote power monitoring with billing grade 99% accuracy - Local or LDAP authentication - LCD Display on the PDU for local monitoring - Ultra-thin one piece design does not interfere with rear maintenance 1U and vertical form factors with flexible mounting options - Industry standard button and keyhole mounting of vertical models for easy drop in installation - Color coded load segment designations - Daisy chainable up to 2 PDUs per IP address - Optional environment sensor measures temperature and humidity - Models range from 2.8kVA to 22kVA

Billing grade accuracy

All HP Remote Monitoring PDUs meet IEC 62053-21, Class 1 standards for ±1% or better accuracy in power monitoring of:

- Amperage
- Voltage
- Wattage
- Kilowatts per hour

A LCD screen on the HP Remote Monitored PDU provides local monitoring and local alert indications.

Flexible Software

- Easy to use CLI and web interfaces
- Local and LDAP security with multiple access levels
- HTTP, HTTPS, Telnet/SSH protocols
- IPv4 and IPv6 compatible
- SNMPv1 and SNMPv3 compatible
- Email alert notifications
- User settable alert thresholds
- Event logs

Multiple models for flexible installation

The HP Remote Monitoring PDUs are available in four form factors for a variety of racks and environments. All HP Remote Monitoring PDUs can be mounted to stay completely out of the critical rear maintenance path needed to service IT equipment in the rack. All vertical models use industry standard button and keyhole mounting for simple drop in installation in HP 11000 G2 and Intelligent Series racks and many third party racks.

1U PDUs

Mounts in 1U of space in any EIA standard rack. Available in either a low voltage model with twelve NEMA 5-20 receptacles or high voltage models with twelve IEC C13 outlets.

Vertical PDUs

- A variety of sizes meet the needs of many environments
- Mounts vertically on either side in the rear of the rack using industry standard button and keyhole mounting.
- Standard mounting faces the outlet towards the rear of the rack. This configuration fully prevents interference in the maintenance zone between rear RETMA rails.

Standard Features

- Using the optional configuration of facing the outlets into the rack, multiple PDUs can be mounted on one side of the rack for higher power density.*

NOTE: Facing the outlets into the rack will interfere with the lower few rack U spaces of the rear maintenance zone due to breakers on the PDUs.

Vertical PDU Form Factors	● **Half Height PDU**
	  ○ Designed to fit in 22U and taller racks
	  ○ Up to 4 Half Height PDUs can be mounted in one side of a 42U or 47U rack using the optional inward facing configuration.
	● **Mid Height PDUs**
	  ○ Designed to fit in 36U and taller racks
	  ○ New Three Phase Dual Voltage models provide three NEMA 5-20 convenience outlets for low voltage equipment in a high voltage rack.
	● **Full Height PDUs**
	  ○ Designed for 42U and taller racks.
	● **480V PDUs**
	  ○ 480V three phase 5 wire input provides 277V single phase output.
	  ○ Unique outlets prevent connection of non-277V compatible equipment.
	
	NOTE: When mounted in the standard rear facing configuration only 1 Mid or Full Height PDU can be mounted per side of the rack. Up to 2 Half Height PDUs can be mounted per side in the standard rear facing configuration in a 42U or taller rack.

Environmental monitoring	An optional environmental sensor attaches to the HP Remote Monitoring PDU and can measure air temperature and humidity in the front or rear of the rack. The environmental senor will send alerts over the network based on user defined thresholds.
Easy Installation and compatibility	Standard button and keyhole mounting provides simple drop in installation in HP 11000 G2 and Intelligent Series Racks and many third party racks.
Warranty Upgrade Options	HP Remote Monitoring PDUs are backed by a limited 3-year warranty. HP Remote Monitoring PDUs automatically assume the Care Pack coverage level of any covered ProLiant server in the same 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

HP Environmental Sensor for Remote Monitored PDUs	HP Environmental Sensor for Remote Monitoring PDUs **NOTE:** The HP Environmental Sensor includes a 6 foot RJ45-RJ45 cable and can be mounted in various locations within the rack. RJ45 cables up to 12 feet long may be used. **NOTE:** One environmental sensor may be installed per HP Remote Monitored PDU.	E2D53A
HP C19 PDU Inlet Cords for D9N45A and D9N46A (required)	HP C19 - Nema L6-20P NA/JP 250V 20Amp High Voltage 3.6m Power Cord HP 240 VAC 4.5M Unterminated End NA Power Cord **NOTE:** 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.	AF593A E7806A
HP Jumper Cables	HP C13 - C14 WW 250V 10A Gray 0.7m Jumper Cord HP C13 - C14 WW 250V 10Amp 0.7m Jumper Cord HP C13 - C14 WW 250V 10Amp 1.4m Jumper Cord HP C13 - C14 WW 250V 10A Gray 1.37m Jumper Cord HP C13 - C14 WW 250V 10Amp 1.4m 15 pc Jumper Cord HP C13 - C14 WW 250V 10Amp 2.0m Jumper Cord HP C13 - C14 WW 250V 10Amp Flint Gray 2.0m Jumper Cord HP C13 - C14 WW 250V 10Amp 2.5m Jumper Cord HP C13 - C14 WW 250V 10Amp 3.0m Jumper Cord HP C13 - C14 WW 250V 10A Gray 3.0m Jumper Cord HP C20 - C13 WW 250V 15Amp 2.0m Jumper Cord HP C19 - C20 WW 250V 16Amp Flint Gray 1.20m Jumper Cord HP C19 - C20 WW 250V 16Amp Flint Gray 2.0m Jumper Cord HP C19 - C20 WW 250V 16Amp 2.5m Jumper Cord HP 200-250V 10A C15 to C14 .76m Jumper Cable **NOTE:** 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.	A0K03A 142257-B28 142257-006 A0K04A 142257-007 A0K02A AF573A 142257-002 142257-003 A0K06A AF590A AF575A AF574A 295633-B22 E7807A
HP Mounting Brackets	HP Vertical PDU 10K G2 Mounting Kit **NOTE:** Allows HP Basic and Remote Monitored PDU vertical models to be mounted in HP 10000 G2 series racks and in the HP V142 rack. PDUs may interfere with the rear maintenance zone when using these brackets. Mounting kits are not required for installation in the HP Intelligent Series or 11000 G2 Series racks.	H6L32A
HP 277 Volt options for D9N63A	HP LS-26 to LS-25 277 Volt 15Amp AC 0.76m Jumper Cord HP LS-26 to LS-25 277 Volt 15Amp AC 1.37M Jumper Cord HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer **NOTE:** 720 watt, 2U transformer converts 277V to 230V for up to 4 devices. **NOTE:** Cord lengths listed are total length including connectors **NOTE:** 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.	TK801A TK802A H3X09A

Remote Monitoring PDU Family Information

Model Selection Matrix - HP Remote Monitored PDUs

HP Remote Monitoring PDUs 1Umodels

Model	Part Number	Input Circuit	Current Maximum	Load capacity	Input Connection	Output circuit breakers	Outlet Connections
2.8kVA PDU	D9N43A	100-120V 30A	24A	2880VA @120V	8ft(2.4m) cord with attached NEMA L5-30P	2 x 20A	12 x NEMA 5-20R
3.6kVA PDU	D9N46A	200-240V 16-20A	16A	3680VA @230V	Detachable input power cord with an IEC 320-C20 inlet on PDU*	n/a	12 x IEC C13
4.9kVA PDU	D9N44A	200-240V 30A	24A	4992VA @208V	8ft(2.4m) cord with attached NEMA L6-30P	2 x 20A	12 x IEC C13

Half Height vertical models

Model	Part Number	Input Voltage	Current Maximum	Load capacity	Input Connection	Output circuit breaker	Outlet Connections
3.6kVA PDU	D9N45A	200-240V 16-20A	16A	3680VA @230V	Detachable input power cord with an IEC 320-C20 inlet on PDU*	n/a	16 x IEC C13

Mid Height vertical models

Model	Part Number	Input Voltage	Current Maximum	Load capacity	Input Connection	Output circuit breaker	Outlet Connections
4.9kVA PDU	D9N47A	200-240V 30A	24A	4992VA @208V	8ft(2.4m) cord with attached NEMA L6-30P	2 x 20A	20 x IEC C13 4 x IEC C19
7.3kVA PDU	D9N48A	200-240V 32A	32A	7360VA @230V	8ft(2.4m) cord with attached IEC 332P6	2 x 16A	20 x IEC C13 4 x IEC C19
5.7kVA Dual Voltage PDU	D9N52A	200-208V 20A 3 phase WYE	27.7A	5764VA @208V 3Ø	8ft(2.4m) cord with attached NEMA L21-20P	n/a	18 x IEC C13 3 x NEMA 5-20R
8.6kVA Dual Voltage PDU	D9N53A	200-208V 30A 3 phase WYE	41.5A	8646VA @208V 3Ø	8ft(2.4m) cord with attached NEMA L21-30P	3 x 20A	18 x IEC C13 3 x IEC C19 3 x NEMA 5-20R
8.6kVA PDU	D9N51A	200-208V 30A 3 phase Delta	41.5A	8646VA @208V 3Ø	8ft(2.4m) cord with attached NEMA 15-30P	3 x 20A	18 x IEC C13 3 x IEC C19
11kVA PDU	D9N55A	380-415V 16A 3 phase WYE	16A/phase	11040VA @ 400V 3Ø	8ft(2.4m) cord with attached IEC 516P6	n/a	18 x IEC C13 3 x IEC C19

QuickSpecs

Remote Monitoring PDU Family Information

Full Height vertical models

Model	Part Number	Input Voltage	Current Maximum	Load capacity	Input Connection	Output circuit breaker	Outlet Connections
7.3kVA PDU	D9N50A	200-240V 32A	32A	7360VA @230V	8ft(2.4m) cord with attached IEC 332P6	2 x 16A	32 x IEC C13 4 x IEC C19
8.3kVA PDU	D9N49A	200-240V 50A	40A	8320VA @208V	8ft(2.4m) cord with attached CS8265C	3 x 20A	30 x IEC C13 3 x IEC C19
11kVA PDU	D9N57A	380-415V 16A 3 phase WYE	16A/phase	11040VA @ 400V 3Ø	8ft(2.4m) cord with attached IEC 516P6	n/a	30 x IEC C13 3 x IEC C19
14.4kVA PDU	D9N58A	200-208V 50A 3 phase Delta	69.28A	14410VA @ 208V	8ft(2.4m) cord with attached CS8365C	6 x 20A	12 x IEC C13 12 x IEC C19
16.6kVA PDU	D9N62A	380-415V 30A 3 phase WYE	24A/phase	16560VA @ 400V	8ft(2.4m) cord with attached IEC 532P6	6 x 20A	12 x IEC C13 12 x IEC C19
16.6kVA PDU	D9N61A	380-415V 30A 3 phase WYE	24A/phase	16560VA @ 400V	8ft(2.4m) cord with attached IEC 532P6	6 x 20A	30 x IEC C13 3 x IEC C19
17.3kVA PDU	D9N59A	200-208V 30A 3 phase Delta	83.04A	17292VA @ 208V	8ft(2.4m) cord with attached IEC 460P6	6 x 20A	12 x IEC C13 12 x IEC C19
17.3kVA PDU	D9N54A	200-208V 30A 3 phase Delta	83.04A	17292VA @ 208V	8ft(2.4m) cord with attached IEC 460P6	6 x 20A	24 x IEC C13 3 x IEC C19
22kVA PDU	D9N60A	380-415V 32A 3 phase WYE	32A/phase	22080VA @ 400V	8ft(2.4m) cord with attached IEC 532P6	6 x16A	12 x IEC C13 12 x IEC C19
22kVA PDU	D9N56A	380-415V 32A 3 phase WYE	32A/phase	22080VA @ 400V	8ft(2.4m) cord with attached IEC 532P6	6 x16A	30 x IEC C13 3 x IEC C19

480/277 Volt model

Model	Part Number	Input Voltage	Current Maximum	Load capacity	Input Connection	Output circuit breaker	Outlet Connections
19.9kVA PDU	D9N63A	480V 30A 3 phase WYE	24A /phase	19944VA @480V 3Ø	8ft(2.4M) cord with attached NEMA L22-30P	6 x 20A	30 x RF203P-HP (LS-26)

* HP Remote Monitored PDU models D9N45A and D9N46A require an IEC 320-C19 to country specific plug inlet cord which is sold separately.

NOTE: 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. Please consult a licensed professional to determine the best connector or receptacle for your specific needs.

Technical Specifications

All PDUs

Operating Temperature (WW models)	50° to 122° F (10° to 50° C)
Operational Temperature (NA and NA/JPN models)	50° to 140° F (10° to 60° 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 (attached cord units)	96 inches (243.8 cm)
Conformance Standards	UL, CUL, VCCI - NA/JPN models CE, TUV, KC, EAC, KCC, ACMA - INTL models UL, CUL, CE, TUV, KC, EAC, KCC, VCCI, ACMA - WW models
Mechanical Dimensions (WxHxD) - 1U models	17.25 x 1.71 x 6.16 in (43.8 x 4.34 x 15.65 cm)
Mechanical Dimensions (WxHxD) - Half Height models	2.05 x 30 x 2.05 (5.2 x 76.2 x 5.2 cm)
Mechanical Dimensions (WxHxD) - Mid Height models	2.05 x 56.12 x 2.05in (5.2 x 142.54 x 5.2 cm)
Mechanical Dimensions (WxHxD) - Full Height models	2.05 x 66.59 x2.05 in (5.2 x 169.14 x5.2)
Kit Contents - All Remote Monitored PDUs	All models ship with:

- Mounting buttons or hardware
- Tie wraps for cable retention
- Shipping bracket (vertical models only)
- 6ft RJ45-RJ45 communications cable
- 6ft RJ45-DB9 Serial cable
- Read me first card

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.

Technical Specifications