

Lenovo 0U Basic Power Distribution Units (Withdrawn)

Product Guide (withdrawn product)

The Lenovo zero-U (0U) Power Distribution Units (PDUs) are the ideal solutions when you need flexible, reliable, easy-to-deploy power distribution with branch circuit protection to minimize downtime. These rack-dense units distribute power to up to 24 outlets. The 0U Power Distribution Units are designed to be installed vertically in the rear channel of a Lenovo 42U rack, thereby not consuming any horizontal rack space that should be reserved for IT equipment (hence the term 0U).

Figure 1 shows the 0U 12 C19/12 C13 50A 3 Phase PDU installed in a Lenovo 42U rack. To the right is the 0U 24 C13 30A PDU.



Figure 1. Two of the available 0U Basic Power Distribution Units

Did you know?

With ever growing power densities in today's rack environments, it is all too easy to add load in the wrong place and trigger an overload event. The 0U PDU offerings can minimize this impact, providing the ability to quickly recover with resettable circuit breakers for each designated bank of receptacles, referred to as *load groups*.

Introduction to PDUs

A power distribution unit (PDU) is a highly reliable, multiple outlet power strip, designed to consolidate line cords within the rack and distribute conditioned power from an uninterruptible power supply (UPS) or utility power to servers and other IT equipment. The PDU efficiently distributes power within the rack and provides fault-tolerant power redundancy for high availability requirements.

There are three types of PDUs available from Lenovo: basic, monitored, and switched and monitored. The PDUs covered in this document are of the basic type.

- **Basic:** The simplest and most cost-effective power distribution. Available with various outlet configurations and line cord options to support differing systems and load requirements. The PDUs covered in this document are of this type.
- **Monitored (also known as PDU+):** Provides the same benefits as a Basic PDU, but adds additional advanced PDU power monitoring down to the load group. This enables businesses to have a cross-platform rack level power and thermal view for trending analysis to improve power management.
- **Switched and monitored:** These are advanced power management solutions, providing power monitoring at the outlet level, with increased accuracy at low amperages, for more precise views of power consumption down to the individual server level instead of at the consolidated load group. These PDUs also offer individual outlet switching (on/off), which allows for remote power sequencing and helps prevent unintended PDU overloading. Management can be performed by tools such as IBM Systems Director Active Energy Manager™.

Part number information

Table 1 lists the available 0U Basic PDUs.

Withdrawn from marketing: The PDUs listed in this product guide are withdrawn from marketing.

Table 1. Ordering part numbers and feature codes

Part number	Feature code	Description
46M4128	5924	0U 24 C13 30A PDU
46M4131	5925	0U 24 C13 32A PDU
46M4122	5922	0U 24 C13 16A 3 Phase PDU
46M4125	5923	0U 24 C13 30A 3 Phase PDU
46M4140	5926	0U 12 C19/12 C13 50A 3 Phase PDU
46M4143	5927	0U 12 C19/12 C13 32A 3 Phase PDU

The part numbers for the 0U Basic Power Distribution Units are included with the following items:

- One power distribution unit
- Mounting brackets for the following racks:
 - Two brackets for an S2 42U Standard Rack cabinet (Types 9307, 9956)
 - Two brackets for an Enterprise Rack cabinet (Types 1410, 9308)
- Miscellaneous hardware kit (for attaching the mounting brackets to the PDU and installing the PDU in a rack cabinet)

Features

0U Basic PDUs have the following common features:







- 0U rack-dense design with input cable connection, primary outlets, and breakers on one face to improve usability and cable management
- Hardware included to mount in side pocket of rack

- Easily accessible individual breakers per receptacle for high availability environments
- Electronic over-current protection
- High capacity up to 22 kW
- Resettable UL489 rated circuit breakers

The use of PDUs simplifies cable management and increases accessibility. In addition, the button-mount design of these 0U Basic PDUs helps simplify deployment by providing tool-less rear mounting in 9360, 9361, and 9362 model rack cabinets, thereby reducing installation time.

Table 2 compares the power specifications of the 0U Basic PDUs.

Table 2. Specifications

Feature	0U 24 C13 30A PDU	0U 24 C13 32A PDU	0U 24 C13 16A 3-phase PDU	0U 24 C13 30A 3-phase PDU	0U 12 C19/12 C13 50A 3-phase PDU	0U 12 C19/12 C13 32A 3-phase PDU
Part number	46M4128	46M4131	46M4122	46M4125	46M4140	46M4143
Feature code	5924	5925	5922	5923	5926	5927
Input power						
Number of phases	Single phase input		Three phase input (wye)			
Line cord	Permanently attached line cord, 3 m length (9-ft, 10-in)					
Line cord connector	NEMA L6-30P	IEC-309 P+N+Gnd	IEC-309 3P+N+Gnd	NEMA L21-30P	CS8365L 3P+Gnd	IEC-309 3P+N+Gnd
Plug design						
Input voltage	200-208V	220-240V	220-240V / 380-415V	200-208V	200-208V	220-240V / 380-415V
Input current rating	30A (24A in the USA)	32A	16A	30A (24A in the USA)	50A (40A in the USA)	32A
Maximum power rating	6240 VA	7680 VA	11040 VA	18720 VA	31200 VA	22920 VA
Output power						
Number of C13 outlets	24	24	24	24	12	12
Number of C19 outlets	0	0	0	0	12	12
Output voltage rating	200-208V	220-240V	220-240V	200-208V	200-208V	220-240V
Output current rating	Each outlet: 10 amps (VDE) / 15 amps (UL/CSA)				Each C13 outlet: 10 amps (VDE) / 15 amps (UL/CSA) Each C19 outlet: 16 amps (VDE) / 20 amps (UL/CSA)	
Number of phases	Single phase output					
Circuit breakers	Three double-pole branch rated circuit breakers rated at 20A				Six double-pole branch rated circuit breakers rated at 20A	
Number of load groups	3	3	3	3	3	3
Mechanical and environment						

Feature	0U 24 C13 30A PDU	0U 24 C13 32A PDU	0U 24 C13 16A 3-phase PDU	0U 24 C13 30A 3-phase PDU	0U 12 C19/12 C13 50A 3-phase PDU	0U 12 C19/12 C13 32A 3-phase PDU
Physical dimensions DxWxH	3.35 x 1.75 x 35.4 in / 85 x 44 x 900 mm				3.35 x 1.75 x 47.2 in / 85 x 44 x 1200 mm	
Weight	3.8 kg / 8.4 lb	4.5 kg / 9.9 lb	3.8 kg / 8.4 lb	3.7 kg / 8.2 lb	7.7 kg / 17 lb	5.9 kg / 13 lb
Operating temperature	10°C to 55°C (50°F to 122°F)					
Operating humidity	5% - 90% (noncondensing)					

Connectors

The 0U Basic PDUs with only C13 connectors have the components and controls shown in Figure 2.

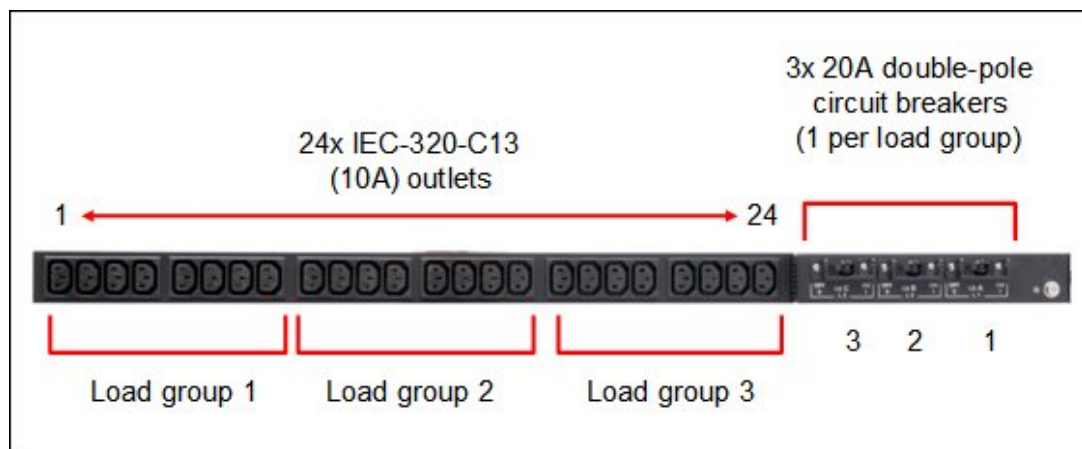


Figure 2. 0U Basic PDUs with C13 connectors

The 0U Basic PDUs with C13 and C19 connectors have the components and controls shown in Figure 3.

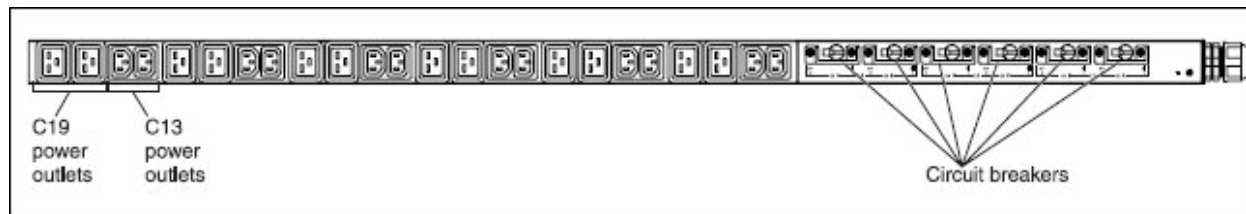


Figure 3. 0U Basic PDUs with C13 and C19 connectors

A close-up of the circuit breakers of the two types of PDUs is shown in Figure 4.



Figure 4. Circuit breakers of the 24 C13 PDU and 12 C19 / 12 C13 PDU

As Figure 4 shows, the PDUs with C13 connectors have three double-pole branch-rated circuit breakers, each rated at 20A. Each circuit breaker is a load group and is associated with eight C13 outlets. The PDUs with C13 and C19 connectors have six double-pole branch-rated circuit breakers each rated at 20A. Each pair of circuit breakers is a load group and is associated with eight C13 outlets.

Warranty

The 0U Basic PDUs are offered with a three-year limited warranty.

Supported rack cabinets

The 0U Basic PDUs can be installed in the following racks:

- S2 42U Standard Rack cabinet (Types 9307, 9956)
- Enterprise Rack cabinet (Types 1410, 9308)
- 42U 1200mm Deep Dynamic Rack (Type 9360)
- 42U 1200mm Deep Static Rack (Type 9361)
- 47U 1200mm Deep Static Rack (Type 9362)

Note: When the 0U PDUs are installed in 1000mm racks such as the S2 42U Standard Rack cabinet, cable management arms (CMAs) cannot be used in the mounted servers.

The PDUs are installed vertically in side pockets of the rack. The Deep Dynamic and Deep Static racks support the button-mount design of the PDU and do not require additional hardware. Installation is shown in Figure 5. For the S2 42U Standard Rack and Enterprise Rack, the PDU part numbers include the necessary mounting hardware.

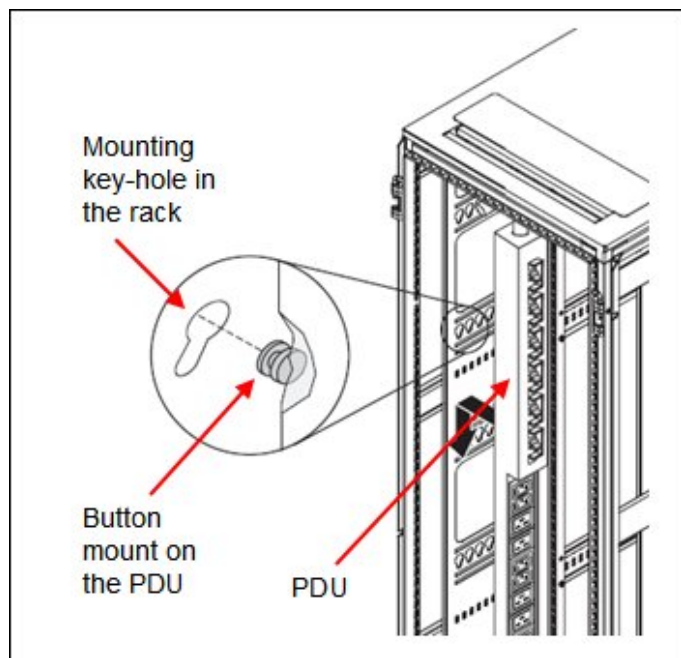


Figure 5. Installing the 0U Basic PDU in a Deep Dynamic or Deep Static rack

Related resources

For more information, see the following resources:

- Lenovo Rack and power infrastructure portfolio (non-monitored PDUs home page)
<http://shop.lenovo.com/us/en/systems/servers/options/systemx/rack-power-infrastructure/>
- U.S. Announcement letter
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS110-208>
- 0U Basic PDUs; Installation and Maintenance Guide
<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5085549>
- System x® PDU Guides
<https://ibm.com/support/entry/portal/docdisplay?Indocid=LNVO-POWINF>
- Power Configurator tool
<https://ibm.com/support/entry/portal/docdisplay?Indocid=LNVO-PWRCONF>
- Configuration and Options Guide (COG)
<http://www.ibm.com/systems/xbc/cog/>

Related product families

Product families related to this document are the following:

- [Power Distribution Units](#)

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2023. All rights reserved.

This document, TIPS0797, was created or updated on April 1, 2016.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/TIPS0797>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/TIPS0797>.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo®

System x®

Other company, product, or service names may be trademarks or service marks of others.