

The Ultimate PDU Buying Guide

How to find and buy
the right PDU for your
IT infrastructure

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What is a Power Distribution Unit?

A Power Distribution Unit (PDU) is a device designed with multiple outlets to distribute reliable power to computers, servers, network switches and any devices in a rack.

PDU's come in a variety of styles that provide everything from simple power distribution to enhanced remote power management.

Why do I need a PDU?

As your company grows, the need for power and additional IT equipment will also continue to grow. It's essential to find a PDU solution that provides outlets and reporting to meet those increasing needs, especially in data centers.



What do I look for in a PDU?

There are a variety of factors to consider when deciding on the right PDU for your organization. Here are six of the most important things to look for when you're choosing a PDU.

1. Horizontal vs. vertical installation

PDUs can be mounted either horizontally or vertically inside or outside the rack enclosure.

Horizontal PDUs are installed in the rack and take up one or two rack spaces. Due to their smaller size, these PDUs have fewer outlets.

Vertical PDUs can be mounted in the back or side of the rack. Vertical racks can have up to 40 outlets.

2. Outlet types

The PDU input plug should match the available receptacle of the power source, ideally an Uninterruptable Power Supply (UPS), and the PDU cord needs to be long enough to connect to the UPS outlet. It's important to know the input plug types of the equipment that you'll be connecting to your PDU and how many outlets you'll need.

Different PDUs offer different combinations of outlet types to give you the flexibility to connect different types of equipment to the same PDU. This will keep your infrastructure future-ready, in the event your needs evolve over time.

APC's latest NetShelter Rack PDU Advanced Series offers the industry's first 4-in-1 combination outlet design for fast, flexible deployment and simplifies future IT infrastructure expansion.

3. Outlet quantity

You'll need to ensure the number of outlets matches your needs for the rack. If you have 30 pieces of equipment that need to be plugged in, then you'll need to plan your UPS and PDU configuration accordingly to accommodate all of this equipment.

However, we recommend you select a PDU with more outlets than you need to ensure you have room for growth.

4. Voltage requirements

In North America, the power voltage available is usually 120V or 208/240V. Europe and Asia typically provide 230V. The available voltage on-site is an important factor to consider when selecting a UPS and PDU configuration for your IT space.



5. Special features

There are a lot of features and upgrades that companies offer on their rack PDU equipment. It's important to think through what will work best in your environment and support your company's goals. Some of the most popular options include:

Remote management software: Some PDUs come equipped or can be upgraded with remote management software. This allows IT to easily manage, monitor and secure your PDUs from anywhere.

Withstand varying temperatures: PDUs are traditionally mounted at the rear of the rack, which can experience high temperature output from IT gear. PDUs maximum operating temperature can range from 45 to 60° Celsius, depending on which model you choose. Certain PDU models also feature environmental monitoring ports for external temperature and humidity sensors for proactive monitoring.

Locking outlets: Some PDU models offer a locking outlet feature, which secures the physical connection between the IT equipment and the PDU when used with locking power cords to avoid accidental unplugging and costly downtime for your business.

Outlet control and customization: Some PDU outlet control features to look out for include: individual outlet remote power on/off control, outlet power sequencing with full user customization, outlet level grouping, and user access control with assignable roles at device and outlet level. APC's newest Advanced PDU series include all of these features, plus the outlets are color-coded to match the breakers, which simplifies installation and load balancing.

6. PDU types

Finally, there are a lot of options to choose from when it comes to types of PDUs. Here are the most common types and what they're used for:



Basic PDUs

Basic PDUs provide reliable power distribution to multiple devices from a UPS, generator or utility power source.



Metered PDUs

Metered PDUs provide power utilization data to allow IT managers to make informed decisions on load balancing and right-sizing IT environments to lower total cost of ownership. They also include real-time power monitoring, temperature sensors and more.



Switched PDUs

Switched PDUs enable advanced, user-customizable power control and active monitoring. This helps your IT teams eliminate costly site visits with the ability to reboot malfunctioning devices and turn the power off and on to each outlet.



APC PDUs

APC offers a variety of rack PDU systems that enable your data center to stay secure and empowered and eliminate downtime. APC PDUs also save your IT teams valuable time, money and resources, while offering a lower total cost of ownership.

Talk to an Insight specialist to equip your organization with APC.



About Insight

Insight Enterprises, Inc. is a Fortune 500 solutions integrator helping organizations accelerate their digital journey to modernize their business and maximize the value of technology. Insight's technical expertise spans cloud and edge-based transformation solutions, with global scale and optimization built on 34 years of deep partnerships with the world's leading and emerging technology providers.



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