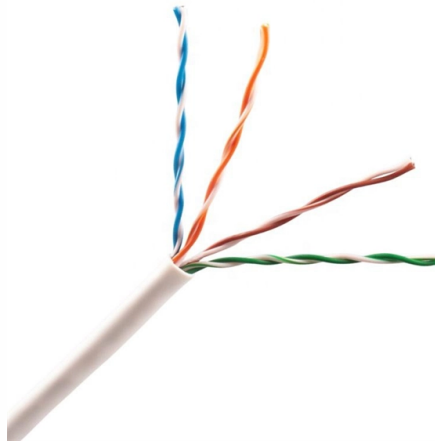


Specifications and Models of Computer Room Power Distribution Box



Overview

Power conditioning and distribution cabinet that offers the benefits of a custom-tailored system, with the convenience and cost savings of a pre-packaged, factory-tested system.

Key Takeaways

Computer room power distribution boxes, or PDUs, come in basic, metered, monitored, and intelligent models, offering scalable, reliable, and remotely controllable power distribution for server racks and data centers. Overview of PDUs Power Distribution Units (PDUs) are specialized devices designed to distribute electrical power from a single input source to multiple output receptacles in data centers and server racks. Unlike standard power strips, PDUs are engineered for high-density IT environments, providing robust construction, precise power management, and monitoring capabilities to ensure reliable operation of critical equipment.

Common PDU Models and Types

Basic PDUs Provide foundational power distribution without monitoring capabilities. Focus on robust construction and dependable performance. Ideal for environments where cost-effective, simple power delivery is sufficient.

Metered PDUs Include local or remote metering to monitor power usage at the rack or input level. Help with load balancing and preventing overloads. Some models allow daisy-chaining multiple PDUs under a single IP address.

Monitored PDUs Offer real-time monitoring of power consumption at the rack or outlet level. Enable proactive management of energy usage and capacity planning. Often include LED displays for local monitoring.

Switched or Intelligent PDUs Provide remote on/off switching for individual outlets. Support scheduled power cycling, group reboot, and sequential socket switching. Allow full control and automation of power distribution, enhancing uptime and operational efficiency.

Technical Specifications

Input Voltage: Typically ranges from 120V to 415V AC, depending on the model and region. **Current Capacity:** Models support from 16A up to 400A for high-capacity applications. **Outlet Types:** IEC, NEMA, or universal outlets to accommodate diverse IT equipment.

Form Factor: Rack-mounted (1U–3U) or floor-mounted cabinets. **Monitoring Features:** Local LED displays, networked monitoring via SNMP, web interfaces, or APIs for integration with data center management systems. **Safety and Reliability:** Overload protection, surge suppression, and redundant power inputs for critical systems.

Use Cases

Small Network Closets: Basic or metered PDUs for simple power distribution. **Enterprise Data Centers:** Intelligent or switched PDUs for high-density racks, remote management, and energy optimization. **Redundant Power Systems:** PDUs with dual inputs or transfer switches to ensure continuous operation of critical servers.

Leading Brands and Solutions

Eaton: Offers Basic, Metered, Managed, and High-Density PDUs with universal input options and outlet-level control. **Vertiv:** Provides Basic, Metered, Monitored, and Switched PDUs, including high-capacity models and remote monitoring capabilities. **Panduit:** Focuses on intelligent PDUs integrated with environmental sensors and data center management platforms for advanced monitoring and control.

Data Room Direct: Supplies IP1–IP5 series PDUs, ranging from basic energy monitoring to sequential socket switching and custom builds.

Conclusion

Selecting the right PDU depends on your power requirements, monitoring needs, and scalability goals.

Basic PD

Us are suitable for simple setups, while intelligent and switched PDUs provide advanced monitoring, remote control, and energy management for high-density and mission-critical environments.

Modern PD

Us ensure reliable, safe, and efficient power distribution, supporting both current operations and future growth in data centers and server rooms.

Article Content

Distribution Box Specifications And Models

The above are only some common distribution box specifications and features. When making actual selections, it is necessary to comprehensively

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Complete Guide for Power Distribution in Servers, Racks, and Data

The guidance provided in this document enables informed decision-making, resulting in reliable, efficient, and scalable power distribution solutions tailored to specific operational requirements.

Power Distribution Units

Determine which PDU is right for you based on power capacity, input and output configurations, monitoring features and scalability needs. Find detailed specifications and part numbers to select the

How To Choose the Right Power Distribution Unit for Your ...

Learn how to choose the right power distribution unit (PDU) for your data center IT enclosure — from types and specs to monitoring, scalability, and best practices.

Ultimate Guide To Distribution Boxes Db Boxes Types

This ultimate guide explains what a distribution box does, its internal components, common types, real-world applications, and how to select the right DB Box for

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Application Models for Power Distribution – Data Centres

Totally Integrated Power –Basic Principles of Electric Power Distribution in Data Centres²¹ Whereas the D-A-CH-CZ guideline defines EMC as “the 3 capacity of an electrical appliance to function in a

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Learn how to choose a distribution box and understand its internal structure, including MCBs, busbars, neutral bars, earth bars, RCDs, RCBOs, SPDs, enclosure ratings, and wiring layout.

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Complete Guide For Distribution Boxes Types

Distribution boxes, also known as electrical distribution boards or panels, are pivotal components in electrical systems, ensuring the safe and organized distribution of electrical power throughout

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

