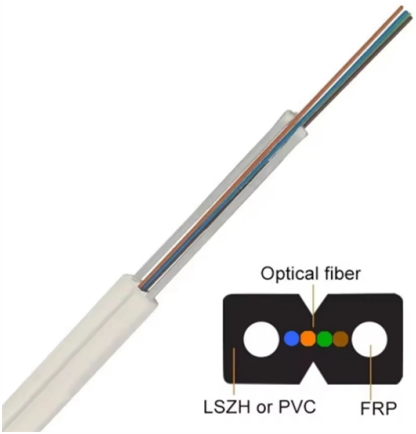
Intelligent PDU power strip in the computer room



Overview

Intelligent PDUs have seen rapid adoption, evolving over the past 20 years to include features like clustering (sharing network ports) and high-retention outlets to prevent disconnections.

Key Takeaways

Intelligent PDUs (iPDUs) are advanced power strips that provide remote monitoring, outlet-level control, and energy management for servers and networking equipment. What is an Intelligent PDU? An intelligent PDU is more than a standard power strip; it is a network-aware device that distributes power to rack-mounted IT equipment while providing real-time monitoring, remote control, and environmental insights.

Unlike basic PDUs, which simply pass power to connected devices, iPDUs allow IT managers to track power consumption, prevent overloads, and troubleshoot issues remotely via a browser or network management system (NMS) ( ).

Key Features

Remote Outlet Control: Turn individual outlets on or off to reboot hung servers or prevent unauthorized equipment from drawing power ( ). Power Metering: Monitor power usage at the inlet, outlet, or branch circuit level, helping optimize energy efficiency and capacity planning ( ). Environmental Monitoring: Some iPDUs include temperature, humidity, and airflow sensors to detect conditions that could affect equipment reliability ( ).

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Network Integration: Support for SNMP v1/v2c/v3 allows integration with existing monitoring tools, enabling alerts and automated responses ( ). Security and Compliance: Role-based access control, event logging, and secure protocols ensure safe remote management ( ). Benefits in a Computer RoomImproved Uptime: Quickly identify and resolve power issues, reducing downtime for critical servers and networking devices ( ).

Energy Efficiency: Track and optimize power usage to reduce operating costs and support sustainability goals ( ). Simplified Management: Centralized monitoring and control reduce the need for manual intervention, saving time for IT staff ( ). Scalability: Many iPDUs support daisy-chaining multiple units and can be integrated with DCIM (Data Center Infrastructure Management) software for large deployments ( ).

Deployment Considerations

Rack Compatibility: iPDUs are typically 0U or 1U and fit standard 19” server racks, with horizontal or vertical mounting options ( ). Power Configurations: Support for single-phase, three-phase, and dual-input setups allows flexibility depending on the data center's power architecture ( ). Outlet Types: Common configurations include C13, C19, and NEMA outlets to match the equipment mix ( ).

Popular Use Cases

Data Centers and Server Rooms: For production infrastructure where uptime and monitoring are critical ( ). Financial Institutions and Hospitals: Where secure, reliable power is essential for sensitive systems ( ). Edge and Colocation Facilities: To manage high-density racks efficiently and remotely ( ).

Intelligent PD

Us are increasingly considered a standard for modern computer rooms, providing visibility, control, and efficiency that basic PDUs cannot match. By implementing iPDUs, organizations can enhance reliability, reduce energy costs, and simplify power management across their IT infrastructure.

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Article Content

White Paper Power Distribution Units (PDUs) in Data Centers

Intelligent PDUs have seen rapid adoption, evolving over the past 20 years to include features like clustering (sharing network ports) and high-retention outlets to prevent disconnections.

Intelligent PDUs: 11 Most Asked Questions (And Straight Answers) -

How is it different from a basic PDU or power strip? Basic PDUs are passive — they simply pass power to connected equipment. iPDUs, in contrast, are network-aware, monitor-enabled,

PDUs | Power Distribution Unit for Server Racks

At Data Room Direct, we supply high-quality Power Distribution Units (PDUs) designed for network cabinets, server racks, and data centres. Whether you

Intelligent Rack PDU Product Overview

Would you like to improve uptime, save energy, and manage the power in your data center cabinets remotely? Raritan''s PX intelligent rack PDUs are exactly what you need.

PDU Power

Add intelligence by providing real-time visibility into power consumption, environmental conditions, and system status. These units enable proactive power management and capacity planning while

BASIC vs. INTELLIGENT PDUs

Basic PDUs provide reliable power distribution. Intelligent PDUs provide advanced features like power metering, environmental monitoring, and remote outlet control.

EL2P Intelligent Power Distribution Unit

Managing and installing a rack power distribution unit (PDU) has never been easier than with the EL2P PDU. Designed to simplify deployment and take stress out of

PDU, power strips and all cables for data center and office

Optimize your energy management with our Intelligent Power Distribution Units (IPDUs). These units come equipped with an integrated circuit breaker and

IPDU Intelligent Power Distribution Unit

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However, unlike traditional Power Distribution Units (PDUs), an iPDU goes beyond basic power delivery by incorporating intelligent features and network connectivity, allowing for real-time monitoring,

Power Distribution Units (PDU)

An intelligent, smart PDU has additional useful functions that go beyond power distribution. Intelligent power distribution units can monitor data interfaces and control and switch them remotely.

Stop Using Consumer Power Strips: Upgrade to Professional PDUs

Discover why consumer power strips fail in server rooms. Learn how professional PDUs offer industrial-grade safety, load balancing, and smart monitoring to protect your critical IT infrastructure from

How To Choose the Right Power Distribution Unit for Your Data

The PDU: no longer just an ordinary power strip. Today, among the many important decisions when it comes to data center efficiency, is which rack mount power distribution unit (PDU) to use.

7 Best Smart Power Distribution Units (PDUs) of 2025 – Expert

Navigate through our expert-tested selection of 2025''s top smart PDUs to revolutionize your power management and discover why these models stand out.

What are Power Distribution Units (PDUs)?

Power Distribution Units (PDUs) do more than power your server rack—they monitor, manage, and protect it. Learn about PDU types, features, and best practices.

Eaton Tripp Lite series transition

Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business

Power Distribution Unit

Power originates from the main power supply, is transferred through central UPS and sub-distribution systems, and is supplied to socket systems in the IT racks – the PDUs (power distribution units). The

A Cheat Sheet for Buying Your Next PDU

What does a PDU do? In its most basic form, a PDU does the same job as a power strip. It uses current from a single source, usually a wall outlet, to

PDU Power Distribution Units | PDU Series

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CyberPower Power Distribution Units (PDUs) distribute network power to multiple devices. PDUs deliver AC power from an uninterruptible power supply (UPS), a

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

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