



Smart PDU Power Socket

Article Overview

Smart PDUs are intelligent power distribution units that allow remote control, monitoring, and management of connected devices, ideal for data centers, server racks, and network equipment.

Overview

A Smart Power Socket PDU is a power distribution unit equipped with network connectivity and intelligent features, enabling users to remotely switch outlets on/off, monitor power usage, and integrate with management systems. Unlike standard PDUs, smart PDUs provide enhanced control, automation, and safety for critical IT equipment.

Key Features

- o Remote Control: Each outlet can be individually switched on/off or power-cycled via web interfaces, mobile apps, or cloud services (e.g., NETIO Cloud or ATEN eco DC software) over LAN, WiFi, or TCP/IP connections .
- o Monitoring and Measurement: Some models measure voltage, current, power (Watts), energy consumption (kWh), frequency, and power factor, allowing administrators to track energy usage and optimize efficiency .
- o Sequential Power-Up: Outlets can be configured to power on in a specific sequence with delays to prevent inrush current and ensure safe startup of connected devices .
- o Integration and Protocol Support: Smart PDUs support multiple protocols such as JSON, XML, Modbus/TCP, SNMP, MQTT, and Telnet, enabling integration with third-party monitoring and automation systems .
- o Security: SSL/TLS encryption and secure authentication protect remote access and control .
- o Environmental Monitoring: Advanced models include ports for temperature and humidity sensors, access control, and environmental monitoring to safeguard equipment .

Installation and Form Factors

- o Rack-Mountable: Most smart PDUs are designed for 19" or 10" racks, available in horizontal, vertical, or 1U configurations .
- o Single, Dual, or Three-Phase: PDUs can be configured for different power requirements, supporting single-phase or multi-phase setups .
- o Compact and Flexible: Some models, like ATEN PE4104, are slim and suitable for desk or edge computing installations, while others support up to 48 outlets for large data centers .

Popular Models



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- o NETIO PowerPDU 4PS: 4 outlets (IEC-320 C13), individually controllable, cloud-enabled, supports multiple protocols, no electrical measurement .
- o iPower ACU Series: Offers up to 48 switched/monitored outlets, advanced metering, environmental sensors, sequential startup, and full network integration .
- o ATEN PE4104 Eco PDU: 4 outlets, remote control via TCP/IP, sequential power-on, energy monitoring, compact form factor for racks or edge devices .

Applications

Smart PDUs are widely used in:

- o Data Centers and Server Rooms: For centralized power management, energy monitoring, and safe sequential startup of servers and networking equipment.
- o Edge Computing and Retail: Controlling digital signage, routers, cameras, and other devices remotely.
- o Automation and IoT Systems: Integration with building management or industrial automation systems for energy efficiency and operational control. Smart PDUs provide enhanced reliability, energy efficiency, and operational flexibility, making them essential for modern IT infrastructure management .

These networked power distribution units by Integra PDU are available with a range of functionality, including socket level monitoring,

The Power Distribution Units (PDUs) monitor the data center power and the environment by continuously scanning for electrical

Shop smart PDUs at Server Racks Online. Explore intelligent rack-mounted PDUs with remote monitoring, power metering, and

W Series 1-Phase intelligent PDUs can be integrated with your rack to provide power management,

Intelligent PDUs allow you to monitor the energy values such as Wattage, Current, Voltage in your rack, from an offsite location.

NETIO products are smart power sockets and outlets controllable over LAN and Wi-Fi. M2M communication protocols and custom Lua..

This industrial PDU works in a wide temperature range (-20°C to +65°C) and supports firmware upgrades over the web. It

NETIO PowerPDU 4KS is a smart PDU (Power Distribution Unit) with 4 metered & switched power



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outputs

The range consists of four models offering various levels of power monitoring and power switching

NETIO PowerPDU 4PS is a smart PDU (Power Distribution Unit) with four power outlets (4x IEC-320 C13). Each output can be

Discover robust PDUs for optimum power distribution, reliability and simple integration. Calibrated and with integrated rack monitoring.

Canovate Smart PDU Solutions Canovate provides cutting-edge Smart PDU solutions designed to

NETIO PowerPDU 4PS is a smart PDU (Power Distribution Unit) with four power outlets (4x IEC-320 C13).

Monitored PDU are smart solutions known to improve uptime, increase operational efficiency, reduce operating costs, lower PUE,

Smart PDU remote power management -- the best way to protect connected equipment from overload,

It features a patented 5-in-1 socket system compatible with IEC C13, C15, C15A, C19, and C21 plugs,

Web: <https://www.supremeacademicresearch.co.za>

