# **POWER DISTRIBUTION UNITS**



# **Tripp Lite PDUs**

Reliable rack power distribution for high-density IT environments.



Introduction	2-3
Basic PDUs	4
Metered PDUs	5
Monitored PDUs	6
Switched PDUs	7
ATS PDUs	8
Hot-Swap PDUs	8

# TRPP-LITE INTRODUCTION



Tripp Lite Rack PDUs increase the availability, efficiency and manageability of equipment in data centers and other high-density IT environments. More than 200 vertical (0U) and horizontal (1U or 2U) models are available, divided into several types with distinct features and benefits.



#### **Basic PDUs**

 Provide Reliable Power Distribution to multiple devices from a UPS system, generator or utility (mains) source.

## **Metered PDUs**

- Include all Basic PDU features, plus digital load meters that enable local **Current Monitoring** to help balance loads and prevent overloads.
- Select models also include premium Isobar® surge protection.

## **Monitored PDUs**

- Include all Metered PDU features, plus a **Network Interface** for remote monitoring and control from any location.
- Send automated alerts to help IT managers prevent accidental overloads, power loss and downtime.

### **Switched PDUs**

- Include all Monitored PDU features, plus Individual Outlet Control.
- Eliminate costly site visits by remotely rebooting malfunctioning devices.
- Increase runtime of critical systems by automatically turning off nonessential equipment loads during extended power outages.

## **ATS PDUs**

- Include all Metered, Monitored or Switched PDU features, plus dual single-phase or 3-phase AC inputs and an **Automatic Transfer Switch**.
- Provide redundant power to devices that do not have redundant power supplies, either by necessity or as a strategy to reduce hardware, power and cooling costs.

# **Hot-Swap PDUs**

- Include dual AC inputs and a Manual Transfer Switch.
- Allow maintenance, repair or replacement of compatible UPS systems without interrupting power to connected equipment.

# PDU Types

Features	Basic PDUs (p. 4)	Metered PDUs (p. 5)	Monitored PDUs (p. 6)	Switched PDUs (p. 7)	ATS PDUs (p. 8)	Hot-Swap PDUs (p. 8)
Reliable Power Distribution						
Current Monitoring		RMPS	Select Models Include Touchscreen Display	Select Models Include Touchscreen Display	RMPS	
Network Interface					Select Models	
Individual Outlet Control				ON OFF	ON OFF	
Automatic Transfer Switch					© ©	
Manual Transfer Switch						

**Basic PDUs** provide reliable power distribution to multiple devices from a UPS system, generator or utility (mains) source.





Horizontal PDU (Front and Back)

- ~20 models
- Up to 40 outlets
- Up to 7.4kW
- Horizontal or vertical rack installation

#### Versatile Mounting Options

- EIA-compliant rack installation or surface mounting.
- Vertical PDUs are optimized for space-saving 0U (vertical) rack installation.
- Horizontal PDUs are optimized for 1U or 2U rack installation.





# **Durable Metal Housing**

• The metal housing increases the PDU's longevity in harsh and demanding installation environments.

#### AC Outlets (NEMA and/or IEC)

• High-quality outlets provide reliable power distribution to multiple devices.

#### Heavy-Duty AC Input Cord and Plug

- Most models have an AC input power cord long enough to reach distant outlets and improve placement flexibility.
- Some models have an AC inlet that connects to the PDU's detachable cord or a user-supplied cord.

#### **Toolless Mounting Buttons**

 Detachable buttons permit quick installation of vertical PDUs in keyhole mounting slots of compatible racks.



Keyhole Mounting Slot

Toolless Mounting Button

#### **Mounting Brackets**

 Detachable brackets support rack or surface mounting.

#### Circuit Breakers

• Many models include breakers to protect against short circuits and overloads.



Vertical PDU

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TRIPPLITE

Metered PDUs include all Basic PDU features, plus digital load meters that enable local current monitoring to help balance loads and prevent overloads.







Horizontal PDU (Front and Back)

- ~45 models
- Up to 48 outlets
- Up to 22.2kW
- Single-phase or 3-phase input

#### **Load Meters**

- Digital LED meters display the current draw of connected equipment
- Real-time visual data from local current monitoring helps installers balance load levels to prevent PDU and supply circuit overloads that cause downtime. Installers can connect more equipment with confidence to increase utilization of available PDU, UPS and circuit capacity without a reduction in reliability.
- PDUs with more than one output bank either have more than one load meter or a multimode load meter capable of displaying the load for each bank/phase or all banks/phases combined.



Single Load Meter

# **Cord Retention Brackets**

• Most models include detachable brackets with built-in anchor points to secure equipment power cords and help prevent accidental disconnection.





Triple Load Meters



Multimode Load Meter



**Dual Load Meters** 



Select models add premium Isobar surge protection to protect components from damaging transient surges and disruptive EMI/RFI line noise.

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Distribution





Monitoring

Network Interface



Horizontal PDU

- ~70 models
- Up to 48 outlets
- Up to 18.7 kW
- Single-phase or 3-phase input

#### **Network Interface**

- RJ45 Ethernet connection permits remote monitoring and alerts over the LAN/WAN via SNMP, web browser and SSH/telnet.
- Automated alerts warn IT managers when load levels exceed user-defined thresholds, identifying trouble spots and preventing accidental power loss and downtime.
- Embedded system with real-time clock and upgradable firmware supports enterprise network standards.
- Select models also include a touchscreen display.



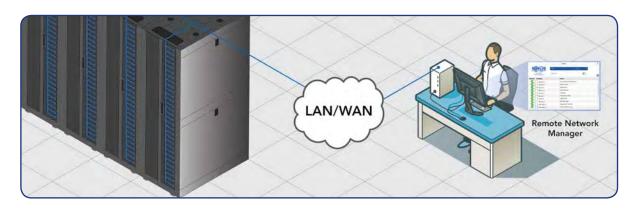
#### **Environmental Sensors**

- Connect to PDU for remote monitoring of temperature, humidity and/or dry contact interface (varies with model).
- Contact closure interface can monitor alarm, security and telecom devices.
- Up to three sensors can be connected.



# Centralize Power Management

• SNMP enables integration with a wide range of Network Management Systems and DCIM platforms.



Vertical PDL

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Switched PDUs include all Basic, Metered and Monitored PDU features, plus individual outlet control for remote reboots and automated load shedding.



Horizontal PDU







Network



Control

Power Distribution

Monitoring

- ~90 models
- Up to 30 outlets
- Up to 28.8kW
- Single-phase or 3-phase input

#### Individual Outlet Control

- Switch individual outlets on or off over the network manually or automatically.
- Remotely reboot unresponsive devices to eliminate costly site visits.
- Automatically turn off idle devices outside business hours to reduce power costs.
- Lock out unused outlets to prevent unauthorized use and related overloads.

#### Load Ramping and Shedding

- Load ramping defines power-on sequences and delays to prevent malfunctions and inrush overloads at startup.
- Load shedding increases the runtime of critical systems by automatically turning off nonessential equipment.
- Example: A UPS supporting 16 network switches can provide about 20 minutes of runtime during an outage. After load shedding turns off 12 switches that aren't essential to core network functions, runtime expands to 120 minutes for the remaining mission-critical switches.

#### **Outlet LEDs**

• Display whether each Switched PDU outlet is on or off.





#### **Outlet-Level Current Monitoring**

- Most 3-phase and some single-phase models can display how much power a device is drawing from a specific outlet.
- Outlet-level current monitoring provides the granular data needed to determine the power draw and operating cost of individual devices on the network. As data granularity increases, guesswork decreases, and efficiency and system reliability can increase.
- Example: If a PDU is near capacity, and a device connected to the PDU draws the majority of the power, it helps to know which device it is in order to better accommodate it without risking an overload. Outlet-level current monitoring can also reveal how much work a device does in relation to the energy it uses, confirming whether it would be more cost-effective to upgrade to a device that delivers more work value per watt.

# TRIPP-LITE ATS PDUs

**ATS PDUs** provide redundant power to devices that do not have redundant power supplies, either by necessity or to reduce costs.



Transfer

Switch

Reliable Power Distribution





(Select

. Models)



Individual Outlet Control (Select Models)



Horizontal 3-Phase ATS/Monitored PDU

- ~25 models with up to 54 outlets
- Up to 17.3kW
- Single-phase or 3-phase input

#### **Dual AC Inputs**

• Power cords and/or inlets connect to primary and secondary AC sources.

#### Automatic Transfer Switch (ATS)

• Internal circuitry automatically switches to the secondary power source if the primary source deviates from the reliable operating range.

#### Input Source LEDs

• LEDs indicate which source is currently supplying power to connected equipment.



# TRIPP-LITE HOT-SWAP PDUs

**Hot-Swap PDUs** allow maintenance, repair or replacement of compatible UPS systems without connected equipment downtime.



Switch

Reliable Power Distribution



Hot-Swap PDU

#### **Dual AC Inputs**

• Power cords and/or inlets connect to utility (mains) and UPS sources.

#### Manual Transfer Switch

• Selects the active power source to bypass the UPS when required.

- Up to 8 outlets and 3.8 kW
- Dual AC inputs
- Manual transfer switch

#### Space-Saving Form Factor

• 2U cabinet can be installed back-to-back with select UPS systems to conserve rack space.



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