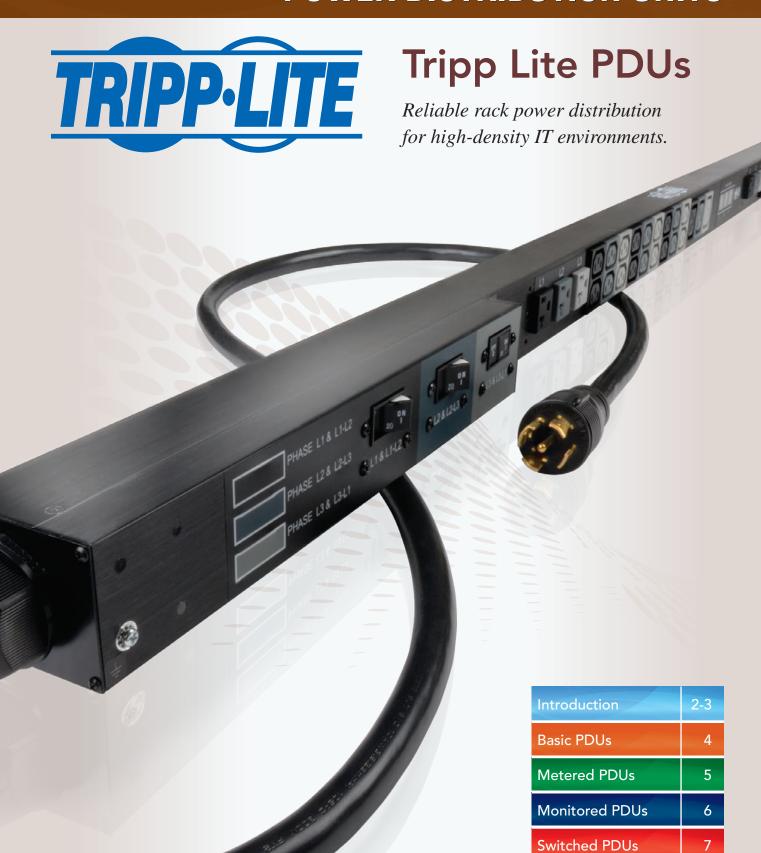
## **POWER DISTRIBUTION UNITS**

ATS PDUs

Hot-Swap PDUs

8



# TRIPP-LITE INTRODUCTION



Tripp Lite Rack PDUs increase the availability, efficiency and manageability of equipment in data centers and other high-density IT environments. Over 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.
- Managed and Unmanaged Network Switch/PDU Combos provide up to 24 Gigabit Ethernet ports\* and 12 5-15R outlets in just 1U of rack space.
  - \*Power over Ethernet (PoE) ports available on select models.

#### **Metered PDUs**

- Provide all Basic PDU features, plus digital LED meters that provide local
   Current Monitoring to enable load balancing and help prevent overloads.
- Select models include a best-in-class 3,840 joules of Isobar® surge suppression technology.

#### **Monitored PDUs**

- Provide all Metered PDU features, plus an Ethernet 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**

- Provide 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 during extended power outages.

#### **ATS PDUs**

 Provide all Metered, Monitored or Switched PDU features, plus dual single-phase or 3-phase AC inputs and an Automatic Transfer Switch to provide redundant power to single-cord devices that do not have redundant power supplies.

### Hot-Swap PDUs

 Include dual AC inputs and a Manual Transfer Switch to allow hot-swappable replacement of compatible UPS systems up to 3kVA without interrupting power to connected equipment.

### **PDU Types**

		2.					
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	RMPS	RMPS	RMPS		
Network Interface					Select Models		
Individual Outlet Control				ON OFF	ON OFF		
Automatic Transfer Switch					© ©		
Manual Transfer Switch							



#### FIND IT FAST!

Try our interactive PDU selector guide at **www.tripplite.com/pduguide** 



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**Jertical PDU** 

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 7.4 kW
- Horizontal or vertical rack installation

#### Versatile Mounting Options

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





#### **Durable Metal Housing**

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

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

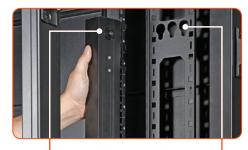
• High-quality outlets provide reliable power distribution to multiple devices.

#### 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

#### Maximize Network Functionality and Power in Minimal Space

• Exclusive Ethernet Switch PDU Combos provide Managed and Unmanaged Gigabit Ethernet and network-grade power distribution in just 1U.









Metered PDUs provide all Basic PDU features, plus digital load meters for local current monitoring to enable load balancing and help prevent overloads.





Power Distribution





Horizontal PDU (Front and Back)

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

#### **Load Meters**

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- Digital LED meters display the current draw of connected equipment in amps.
- 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.

Single Load Meter

• 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.

#### 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.





# TRIPP-LITE MONITORED PDUs

**Monitored PDUs** provide all Basic and Metered PDU features, plus a network interface for remote monitoring and automated alerts.







Power
Distribution

Current Monitoring

Network Interface



Horizontal PDU

- ~55 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, SSH, telnet, RSS, text message and email.

- Automated alerts warn IT managers when load levels exceed user-defined thresholds, identifying potential trouble spots and preventing accidental power loss and downtime.
- Embedded system with real-time clock and upgradable firmware supports enterprise network standards, including IPv6, SNMPv3, FTP, NTP, DHCP, SSL, SSH and Radius.

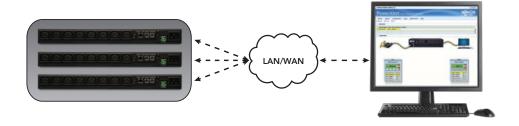
#### **ENVIROSENSE®** Sensor

- Environmental sensor connects to PDU for remote monitoring of temperature, humidity and contact closure interface.
- Contact closure interface can monitor alarm, security and telecom devices, as well as additional sensors.
- 12 ft. cord provides placement flexibility inside or outside racks.



#### Centralize Power Management with PowerAlert® NMS (Included)

- PowerAlert NMS allows IT managers to auto-discover and manage hundreds of PDUs, UPS systems, connected environmental sensors and other devices through a single interface from any location.
- PowerAlert software does not require any licensing fees, regardless of the quantity of managed devices.





# TRIPP·LITE SWITCHED PDUs

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



Horizontal PDU



Power

Distribution





Network



Individua Outlet Control

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

#### Individual Outlet Control

20

**Jertical PDL** 

- 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 single-cord devices that do not have redundant power supplies.



Horizontal PDU (Front and Back)

#### **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.



Automatic Transfer Power Switch Distribution



Current Monitoring



Individual (Select

Network Interface (Select Models)

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

#### Input Source LEDs

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





For more information, refer to "PDU Models and Specifications" or visit www.tripplite.com/ATS-pdu

### TRIPP-LITE HOT-SWAP PDUs

Hot-Swap PDUs allow maintenance, repair or replacement of compatible UPS systems up to 3kVA without system downtime.



#### **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.



- 5 models with up to 8 outlets
- 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.



For more information, refer to "PDU Models and Specifications" or visit www.tripplite.com/hotswap-pdu

#### **About Tripp Lite**

Since 1922, Tripp Lite has established a global reputation for quality manufacturing, superior value and excellent service. Tripp Lite makes more than 3,500 products to power, protect, manage, house, cool, connect and mount your electronic equipment, including UPS systems, replacement batteries, PDUs, rack systems, cooling solutions, surge protectors, KVM switches, console servers, cables, display solutions, power strips and inverters. Learn more at www.tripplite.com.







