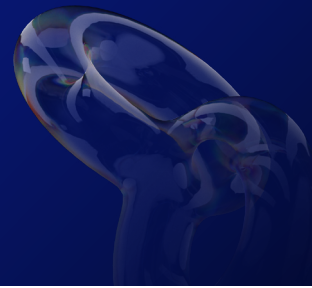


# Managed Power



Reduce service calls and protect your critical infrastructure



## What Is It and Why Do You Need It?

The Managed Power Service offers a comprehensive solution with a power distribution unit (PDU) for managing and optimizing power distribution to TPx provided hardware deployed within data centers and critical infrastructure environments. The Power Management Service solves challenges with initial troubleshooting steps when devices are not functioning as intended. This includes both access to on-premises equipment, as well as understanding if the device is running or not. The service is available only as a supplement to other TPx managed services.

## Benefits



### Remote Access and Power Cycling

Seamlessly manage and troubleshoot devices connected to the Power Distribution Unit (PDU) from anywhere, enabling swift resolution of issues without on-site intervention



### Proactive Support Process

Simplify operations and enhance efficiency by preemptively addressing issues, eliminating reactive troubleshooting steps, and minimizing downtime



### Enhanced Device Visibility

Gain deeper insights into the status of connected devices, empowering informed decision-making and proactive maintenance to optimize performance



### Remote Reboot

Enable TPx to remotely initiate reboots on specific devices connected to managed power strips, ensuring uninterrupted operations and swift issue resolution



### Real-time Monitoring

Stay informed about power consumption and device availability, enabling proactive management and timely responses



### Auto-reboot of connected devices

Continuously monitors your device up/down status, and power cycles the outlet if needed, keeping your critical infrastructure hardware running optimally

## How It Works

By utilizing a Power Distribution Unit, you can receive insights on the status of the individually connected devices to understand if they are currently up and running. Using the cloud management portal for the PDU, you can individually power cycle the outlets based on which connected devices are having challenges with receiving power or are offline. Alert notifications are generated for both the status of the PDU itself, as well as the status of the individual outlets on the device.



**Stay Connected** Provides current and voltage readings for each outlet for advanced troubleshooting capabilities. If your service gets interrupted for any reason, TPx can remotely troubleshoot and get you back online quickly – often before you even know there is an issue.



**Stress Less** Offers surge protection and even automatically disconnects in unsafe voltage conditions. These features keep your equipment from failing and provide critical protection for both your gear and your files.



“We really need a solution that keeps my employees out of the data closet”

- Large retail customer

## Why TPx Managed Power?

Receive a \$50,000 connected equipment replacement guarantee for any power distribution units that show signs of surge damage or fails to protect connected equipment from an AC power, cable, telephone, or lightning surge and eligible for replacement within the PDU’s warranty period. TPx utilizes managed power when coupled with other hardware related services from TPx to bring a proactive and streamlined approach with bottom-up troubleshooting. TPx also offers three sizes of uninterruptible power supplies (UPS): 2000 VA, 1500 VA, and 1100 VA. UPS devices are sold separately or as a kit with the popular 800 Series 12 Outlets, 2U Horizontal PDU. TPx managed power distribution units come in professional grade 6, 8, 12 outlet models and feature individual outlet metering, surge protection, and power conditioning to cut down on service calls, and protect your investment. Understanding what equipment will be connected to the power distribution unit, will be necessary to understand the power draw and appliance size needed.

## Power Distribution Unit (PDU)

Model	Description	Number of Outlets	Rack Spacing	UL Power Rating	UL Current Rating	Manufacturer Warranty & Replacement
<b>WB-800-IPVM-12</b>	WattBox® 800 Series IP Power Conditioner   12 Individually Controlled & Metered Outlets	12	2U (horiz)	1440W	12A	3 Year
<b>WB-800VPS-IPVM-12</b>	WattBox® IP Vertical Power Strip & Conditioner w/ Individually Controlled & Metered Outlets	12	21U (vertical)	1440W	12A	5 Year
<b>WB-800CHIU-IPVM-8</b>	WattBox® 1U Integrated Faceplate IP Power Conditioner   8 Individually Metered and Controlled Outlets	8	1U (horiz)	1440W	12A	3 Year
<b>WB-800-IPVM-6</b>	WattBox® 800 Series IP Surge Protector   6 Individually Controlled & Metered Outlets	6	1U (horiz) 10U (vertical)	1440W	12A	3 Year

## Uninterrupted Power Supply (UPS)

Model	Rack Spacing	Battery Recharge Time	Battery Run time (full load)	Battery Run time (half load)	Battery Size	Current Rating	Power Rating	Capacity	Overload Protect
<b>WB-OVRC-UPS-2000-1</b>	2U	4 hours	5.2 minutes	15.5 minutes	12V/9AH	20A	1710W (max)	2000 VA	Yes
<b>WB-OVRC-UPS-1500-1</b>	2U	4 hours	5.2 minutes	13.5 minutes	12V/9AH	16A	1350W (max)	1500 VA	Yes
<b>WB-OVRC-UPS-1100-1</b>	2U	4 hours	5.2 minutes	9 minutes	12V/9AH	15A	990W (max)	1100 VA	Yes

## Kits (PDU/UPS)

Model	Description	Number of Outlets	Rack Spacing	Included Models
<b>KIT-UPS-IPVM12-2000</b>	WattBox® IP UPS Kit - 12 Controllable Outlets   2000 VA	12	2+2U (horiz)	WB-800-IPVM-12 WB-OVRC-UPS-2000-1
<b>WB-OVRC-UPS-2000-1</b>	WattBox® IP UPS Kit - 12 Controllable Outlets   1500 VA	12	2+2U (horiz)	WB-800-IPVM-12 WB-OVRC-UPS-1500-1
<b>KIT-UPS-IPVM12-1500</b>	WattBox® IP UPS Kit - 12 Controllable Outlets   1100 VA	12	2+2U (horiz)	WB-800-IPVM-12

Technical Features	Description	PDU	UPS
<b>Outlet Labeling</b>	Each individual outlet for PDUs can be customized to be named after the type of connected equipment to the outlet.	●	N/A
<b>Host Settings</b>	The PDU can have specific hosts for the WattBox appliance to ping, to ensure internet connectivity. The Default hosts are Google, Apple, and Amazon.	●	N/A
<b>Power On Delay</b>	The power on delay allows for you to specify in seconds, how long after a reboot command is sent, to supply power to the outlet for the connected device. This can be set to any value between 1-600 seconds. Best Practices are to ensure that the first device in your network topology powers on first.	●	N/A
<b>Outlet Mode</b>	Based on the type of connected device, there are different outlet modes that can be configured: Disabled, Enabled, and Network Device (Reset Only). Network Device (Reset Only) is recommended for all network devices, to avoid outages caused by devices being accidentally powered off.	●	N/A
<b>Outlet Reboot</b>	Each individual outlet has the ability to be manually rebooted from within the cloud management portal.	●	N/A
<b>Self-Healing (Auto Reboot)</b>	Enable to reset specific outlets when the WattBox fails to connect to the hosts configured within the Host Settings.	●	N/A
<b>Outlet Reboot Settings</b>	The Outlet Reboot Settings allow for you to configure which outlets restart when they cannot connect to the selected hosts. Reboot Outlet When can be configured to specify when all selected hosts time out, any selected host time out, or never. Each outlet you can specify which hosts are configured. It is recommended to use External IP addresses for Routers and Modems.	●	N/A
<b>Time-out Settings</b>	Configure the amount of time and the events that trigger an auto reboot. This includes a Time-out interval, number of time-outs before auto-reboot, Connection test delay interval after auto reboot, and reboot attempts.	●	N/A
<b>Outlet Sched.</b>	Packet buffering technique used to ensure the continuity of audio streams during network congestion.	●	N/A
<b>UPS Settings</b>	Static routes may be used in cases where a connected device does not support dynamic routing protocols or customer's preference.	●	N/A
<b>Overcurrent Protection Mode</b>	Overcurrent Protection Mode is a feature included in the 800 Series WattBox PDUs, that protects each outlet (and the connected device) from excessive current. When Overcurrent Protection Mode is activated, the outlet will be disabled with additional troubleshooting steps on how to rectify the overcurrent.	●	N/A
<b>Inlet Surge Protection</b>	Built-in protection for the UPS and all connected equipment against power surges.	N/A	●
<b>Auto Voltage Regulation</b>	Incoming power is monitored to avoid harmful over- or under-voltage conditions. Power is increased in Boost mode and decreased in Buck mode.	N/A	●
<b>Battery Backup for WattBox IP</b>	Battery backup for powering critical equipment connected to a WattBox IP device during power outages and fluctuations. Batteries can be serviced without turning the UPS off.	N/A	●
<b>UPS Alarm on Power Loss</b>	This is a togglable setting that allows for an audio alarm that is emitted from the UPS, when you lose power.	N/A	+
<b>Voltage Range Expectations</b>	Voltage ranges can be specified based on the type of connected devices you have associated with your PDU/ UPS. Normal Range is for locations with consistent and reliable voltage and frequency. Wide Range is for use where the input voltage or frequency may fluctuate.	N/A	+
<b>Load Shedding Configuration</b>	Load Shedding allows for you to specify when running off power from the UPS, what battery percentage to turn off specific outlets. The thresholds are: Never, 25%, 50%, 75%, and None. Never and 25% should be set for the highest priority connected devices.	N/A	+
<b>Emergency Power Off (EPO)</b>	Built-in contact for EPO. Two-pin terminal for turning the UPS on (pins connected) and off (pins separated). Leave the jumper in place if not required.	N/A	+
<b>SSH</b>	Secure Shell Protocol (SSH) is utilized for Managed Power to follow best security practices when connecting to the local GUI on the PDU. SSH allows for you to authenticate and encrypt connections between the OVRC portal and the local appliance when needed.	●	●
<b>Multi-Factor Authentication</b>	Multi-factor Authentication is configured for TPx Employees onboarding and supporting customers within the Cloud Management Portal, following best security practices to mitigate unauthorized access to Managed Power Devices.	●	●

● Included

+ Available; no additional purchase required; enabling these optional features determined during onboarding

