Server Technology
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PRO3X User Guide

Features

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www.servertech.com

Instructions
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Dangerous Voltage
This symbol is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Protective Grounding Terminal
This symbol indicates a terminal that must be connected to earth ground prior to making any other connections to the equipment.

Life-Support Policy

As a general policy, Server Technology® does not recommend the use of any of its products in the following situations:

- life-support applications where failure or malfunction of the Server Technology product can be reasonably expected to cause failure of the life-support device or to significantly affect its safety or effectiveness.
- direct patient care.

Server Technology will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Server Technology that:

- the risks of injury or damage have been minimized,
- the customer assumes all such risks, and
- the liability of Server Technology is adequately protected under the circumstances.

The term life-support device includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief or other purposes), auto-transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults or infants), anesthesia ventilators, infusion pumps, and any other devices designated as "critical" by the U.S. FDA.

Notices

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About Your Features Guide

This Features guide was designed for data center staff and administrators who monitor power, control outlet actions, and direct equipment operations in the data center network using the PRO3X product group.

This guide introduces you to the key features of the PRO3X. Descriptions, photos, illustrations, screen examples, and step-by-step, task-based instructions provide a collection of the innovative and high-density operational features that make the PRO3X a unique and cost-effective PDU.

Contact Technical Support

Experience Server Technology's FREE Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8 a.m. to 5 p.m. Pacific Time, Monday through Friday.

Server Technology, Inc. (a brand of Legrand)

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Safety Precautions

This section contains important safety/regulatory information that must be reviewed before installing and using the **PRO3X** PDU.

	Only for installation and use in a Restricted Access Location in accordance with the following installation and use instructions. **This equipment should only be installed by trained personnel.**	Destiné à l'installation et l'utilisation dans le cadre de Restricted Access Location selon les instructions d'installation et d'utilisation. **Cet équipement est uniquement destiné à être installé par personnel qualifié.**	Nur für Installation und Gebrauch in eingeschränkten Betriebszonen gemäß der folgenden Installations-und Gebrauchsanweisungen. **Dieses Gerät ist nur für den Einbau durch Personal vorgesehen.**
	This equipment is designed to be installed on a dedicated circuit. The power supply cord shall be a minimum of 1.5m (4.9ft) and a maximum of 4.5m (15ft). If using an extension power cord, the total length shall also be no more than the maximum allowed. The plug is considered the disconnect device and must be easily accessible.	Cet équipement a été conçu pour être installé que un circuit dédié. Le cordon d'alimentation doit être d'au moins 1,5M et un maximum de 4,5m. Si vous utilisez un cordon de rallonge, la longueur totale est également plus que le maximum autorise. La prise est considérée comme un dispositif de coupure et doit être facilement accessible.	Die Geräte sind für eine Installation an einer fest zugeordneten Leitung ausgelegt. Die Stromzuleitung hat eine Mindestlänge von 1,5m, und hochstens 4,5m. Sollten Sie ein Verlangerrungsnetzkabel, der Gesamtlange auch nicht mehr als die maximal zulassige sein. Der Stecker dient zur Trennung vom Netz und muss einfach erreichbar sein.
	The dedicated circuit must have circuit breaker or fuse protection. PDUs have been designed without a master circuit breaker or fuse to avoid becoming a single point of failure. It is the customer's responsibility to provide adequate protection for the dedicated power circuit. Protection of capacity equal to the current rating of the PDU must be provided and must meet all applicable codes and regulations. In North America, protection must have a 10,000A interrupt capacity.	Le circuit spécialisé doit avoir un disjoncteur ou une protection de fusible. PDUs ont été conçus sans disjoncteur général ni fusible pour éviter que cela devient un seul endroit de panne. C'est la responsabilité du client de fournir une protection adéquate pour le circuit-alimentation spécialisé. Protection de capacité équivalant à la puissance de l'équipement, et respectant tous les codes et normes applicables. Les disjoncteurs ou fusibles destinés à l'installation en Amérique du Nord doivent avoir une capacité d'interruption de 10.000 A.	Der feste Stromkreis muss mit einem Schutzschalter oder einem Sicherungsschutz versehen sein. PDUs verfügt über keinen Hauptschutzschalter bzw. über keine Sicherung, damit kein einzelner Fehlerpunkt entstehen kann. Der Kunde ist dafür verantwortlich, den Stromkreis sachgemäß zu schützen. Der Kapazitätsschutz entspricht der aktuellen Stromstärke der Geräte und muss alle relevanten Codes und Bestimmungen erfüllen. Für Installation in Nordamerika müssen Ausschalter bzw. Sicherung über 10.000 A Unterbrechungskapazität verfügen.
	Models with unterminated power cords: Input connector must be installed by qualified service personnel. Input connector rating must meet all applicable codes and regulations.	Modèles avec cordons d'alimentation non terminées: Le connecteur d'entrée doit être installé par un personnel qualifié. Entrée cote de raccordement doit respecter tous les codes et règlements électriques applicables.	Modelle mit nicht abgeschlossenen Netzkabel: Der Eingangsstecker darf nur von qualifiziertem Wartungspersonal installiert werden. Eingangsanschluss Bewertung müssen alle geltenden und verbindlichen Normen und Vorschriften entsprechen.
	Do not block venting holes when installing this product. Allow for maximum airflow at all times.	Ne bloquez pas les orifices d'aération lors de l'installation de ce produit. Permettre une circulation d'air maximale à tout moment.	Achten Sie darauf, dass keine Belüftungslöcher bei der Installation dieses Produkts. Damit für maximalen Luftstrom zu allen Zeiten.
	Installation Orientation: Vertical units are designed to be installed in vertical orientation.	Installation Orientation: Les unités vertical sont conçues pour être installées dans une orientation verticale.	Installationsausrichtung: Vertical Einheiten sind zur vertikalen Installation vorgesehen.
	Always disconnect the power supply cord before servicing to avoid electrical shock. For products with two input power cords, both must be disconnected before servicing.	Toujours débrancher le cordon d'alimentation avant de l'ouverture pour éviter un choc électrique. Pour les produits avec deux cordons d'alimentation d'entrée, les deux doivent être déconnectés avant l'entretien.	Trennen Sie das Netzkabel, bevor Sie Wartungsarbeiten Öffnung einen elektrischen Schlag zu vermeiden. Für Produkte mit zwei Eingangsstromkabel, sowohl, müssen vor der Wartung abgeschaltet werden.
	WARNING! High leakage current! Earth connection is essential before connecting supply!	ATTENTION! Haut fuite très possible! Une connection de masse est essentielle avant de connecter l'alimentation !	ACHTUNG! Hoher Ableitstrom! Ein Erdungsanschluss ist vor dem Einschalten der Stromzufuhr erforderlich!
	WARNING! Cx-xxE-x units double pole/neutral fusing	ATTENTION! Les unités Cx-xxE-x Double Pôle/Fusible sur le Neutre	ACHTUNG!: Cx-xxE-x Zweipolige bzw. Neutralleiter-Sicherung
	ATTENTION! Observe precautions for handling Electrostatic Sensitive Devices.	Attention ! Respecter les mesures de sécurité en manipulant des dispositifs sensibles aux décharges électrostatiques.	Achtung! Vorsichtshinweise zur Handhabung elektrostatisch empfindlicher Geräte beachten.
	Products rated for 240/415VAC may be fitted with a plug that is rated for a higher voltage. Caution must be taken to assure that the rating of the unit and the supply voltage match.	Les produits prévus pour 240/415VAC peut être équipé d'un bouchon qui est conçu pour une tension plus élevée. Des précautions doivent être prises pour assurer que la cote de l'unité et la tension d'alimentation correspond.	Produkte die für 240/415VAC zugelassen sind können mit einem Stecker der für eine höhere Spannung ausgestattet sein. Vorsicht ist geboten, um sicherzustellen, dass die erlaubten Betriebswerte des Gerätes und der Versorgungsspannung zueinander passen.

Attaching Safety Earth Ground Connection

Server Technology PDUs are supplied with an external safety ground connection to provide an alternate ground path for fault currents, and to maintain the same ground reference between it and the equipment rack.

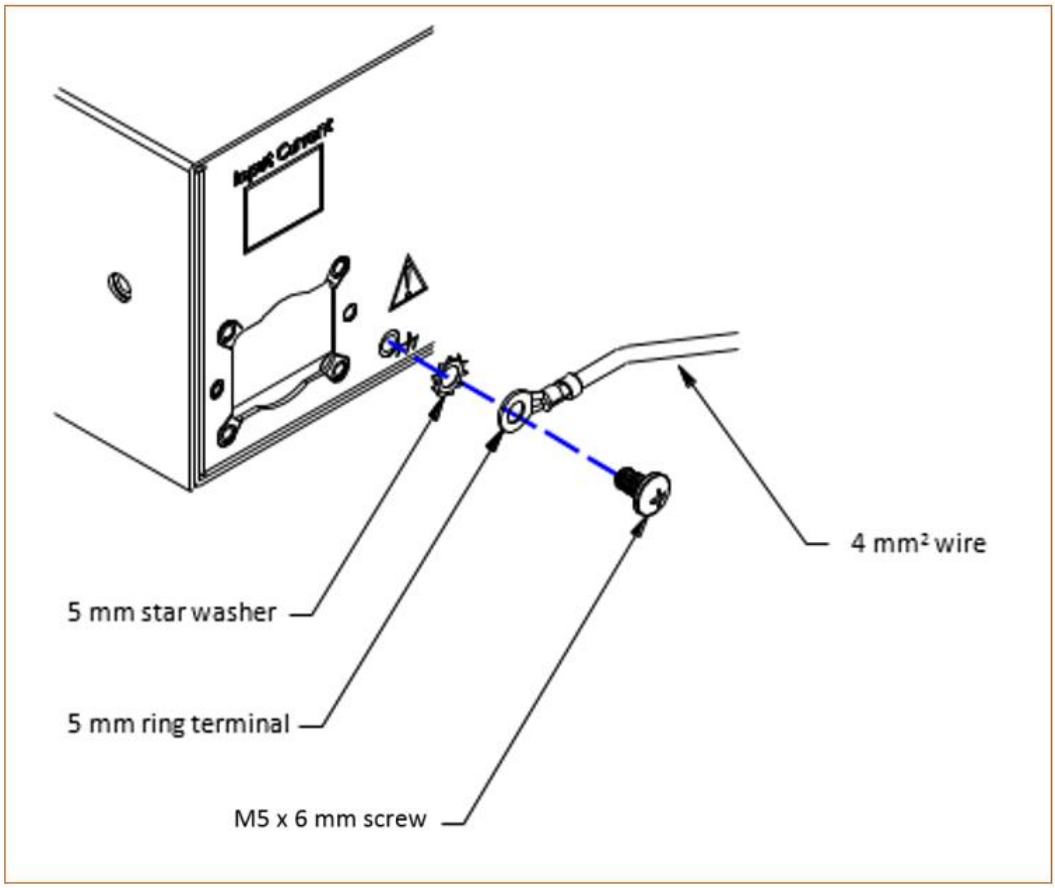
Note: The auxiliary external ground location may vary. Most PDUs will have it located near the power cord entry located near the ⏚ symbol.

User-Supplied Materials:

- One 5 mm internal (or external) tooth star washer;
- One 4.0 mm^2 (10 AWG) wire with 5 mm ring terminal;
- One metric M5 x 6 mm coarse pitch screw.

Instructions:

1. Connect one end of the ground wire to the equipment cabinet or local ground.
2. Locate the PDU external ground near the ⏚ symbol.
3. Connect the other end with a ring terminal and a M5 screw to the PDU external ground.
   To ensure proper grounding to chassis, use a star washer between ring terminal and PDU.



Chapter 1: Introducing the PRO3X

PRO3X is Server Technology's unique HDOT Cx PDU, the industry standard for hyperscale critical facilities, focusing on an innovative rack design to minimize network drops and to assist with load balancing. Further, the PRO3X provides the unmatched flexibility and density of **HDOT Cx outlet technology** – Server Technology's own leading-edge universal outlet that automatically increases outlet count.

The flexible, high-temperature PRO3X PDU contains PIPS and POPS technology, as well as Branch Current Metrics, similar to the PRO2 PDU.

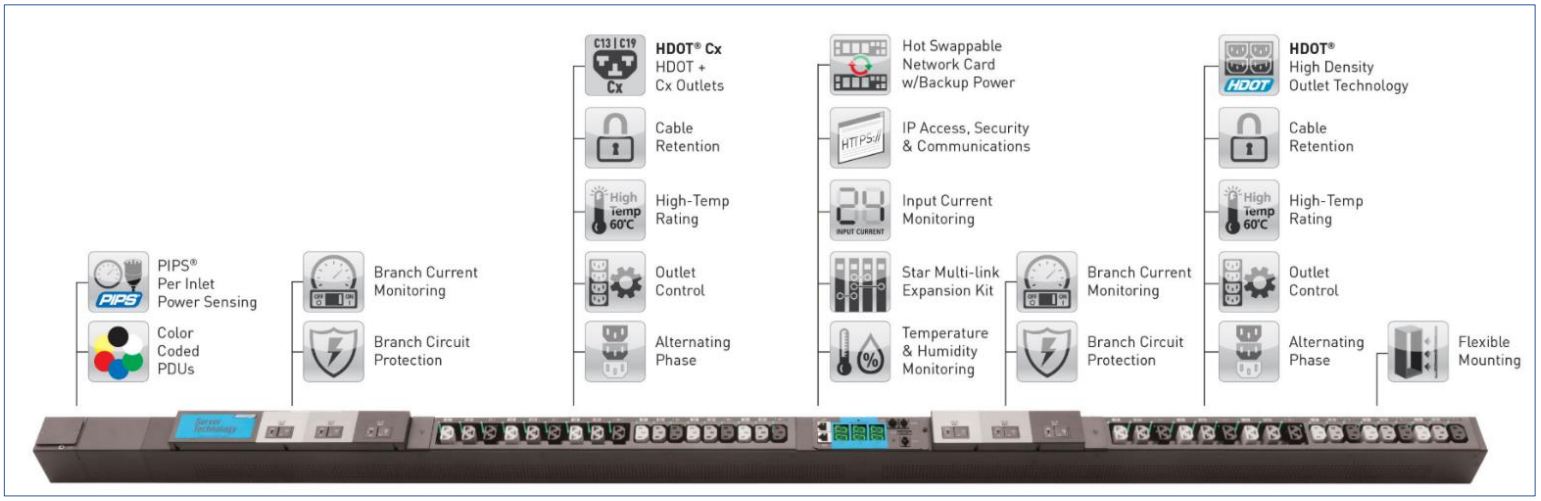
The PRO3X is designed for roll-out in select SKUs, including Smart and Switched POPS models, to be followed by the Switched PRO3X PDU.

What's Unique About the PRO3X?

Note: Although the PRO3X is an additional trusted PDU offering from Server Technology and retains primary Server Technology features, the PRO3X is a limited range PDU and does not replace Server Technology's flagship PRO2 PDU.

The PRO3X PDU is designed with first-time industry features:

- The unique combination of the latest **Server Technology-branded PDU platform and its innovative HDOT Cx outlet using the Raritan controller**. The HDOT Cx outlet is the advanced and flexible outlet design that allows a single PDU for many applications. The controller, or network card, is the **NIM8G Xerus,** which is the industry communication standard for many high-density data centers.
- **Raritan Xerus firmware stack and API, a new MIB, and Server Technology hardware mounting**. The Raritan firmware stack provides interface and communication (GUI and CLI functions) with the Server Technology.
- The added feature of the **Server Technology-style of PDU linking and outlet grouping** for all master units (link up to 8 units), with redundant backup power from the first link unit to keep the network card up should power fail on the master unit.
- A fixed 36-outlet design for all PRO3X models, as 36 outlets is the most common HDOT outlet count, with **RAMLock outlet retention mechanism**. The RAMLock outlets are spaced evenly across the length of the PDU for easy cable management. PRO3X outlets include a combination of the HDOT C13 and the innovated Server Technology HDOT Cx hybrid outlet that accepts either C14 or C20 plugs.
- Similar to Raritan PDUs, the PRO3X controller board has a central LCD display, while the PRO3X Switched and Switched POPS units have **easy to read LEDs where the Off LED is Off and the Green LED is On**, similar to other Server Technology PDUs.



PRO3X Equipment View

Alternating Branch Metrics

Alternating phase technology is not available with the PRO3X. However, across the 36 locking outlets, **alternating branch-current metrics** are available on all PRO3X units, divided into 18 HDOT and 18 HDOT Cx outlets.

This means each branch carries a phase. An example of alternating branch in the PRO3X unit design is the following layout:

L1 > L2 > L3 > L1 > L2 > L3.

PRO3X and Divided HDOT C13 and HDOT Cx Outlets

Product Specifications

The following items define the PRO3X design:

- 2.2” Wide x 2.5” Deep x 70” Tall
- RAMLock Locking Outlets – 36 evenly-spaced outlets (18 HDOT C13 and 18 HDOT Cx) over the length of the entire PDU using a self-latching, cam-style locking mechanism.
- Fixed Cord Length (Customizable)
- Central LCD Display with Auto-Flip
- Non-Latching relays
- Easy to Read Outlet LEDs (Off LED is Off and Green LED is On)
- Multiple Accessories: Cameras, Wi-Fi, Cabinet, Door Locks, Environmental Sensors

Available Models

The initial phase of the PRO3X is available in 12 configurations with the following electrical circuits:

- Single Phase 30A
- 3PH Delta 30A
- 3PH Delta 60A
- 3PH Wye 32A

PRO3X Direct KVM Remote Power Control

Note: Not available with Raritan Dominion Appliances.

How Direct KVM Remote Power Control Works

- The D2CIM-PWR connects from the Dominion switches to PX PDU feature ports
- No feature port on the PRO3X network card NIM8G
- No PRO3X remote power control via the D2CIM-PWR to the DKX3-xxx, DSX2-xxx, and other products supporting that CIM
- DSX2-xxx products would also not support remote power control
- Remote power control will be available via Raritan CommandCenter via SMNP for PRO3X PDU's with outlet switching.

Chapter 2: Outlet Locking (RAMLock)

The RAMLock mechanism provides maximum outlet retention, designed exclusively for the PRO3X with an innovative, easy-to-use design.

RAMLock Retention Mechanism

RAMLock is an ergonomic locking arm, does not require tools or other locking cords, and allows single-hand removal of a cord with the quick press of the lever.

RAMLock Outlets on the PRO3X

On the PRO3X PDU, the RAMLock locking outlets are 36 evenly-spaced outlets (18 HDOT C13 and 18 HDOT Cx) over the length of the entire unit using a self-latching, cam-style locking mechanism.

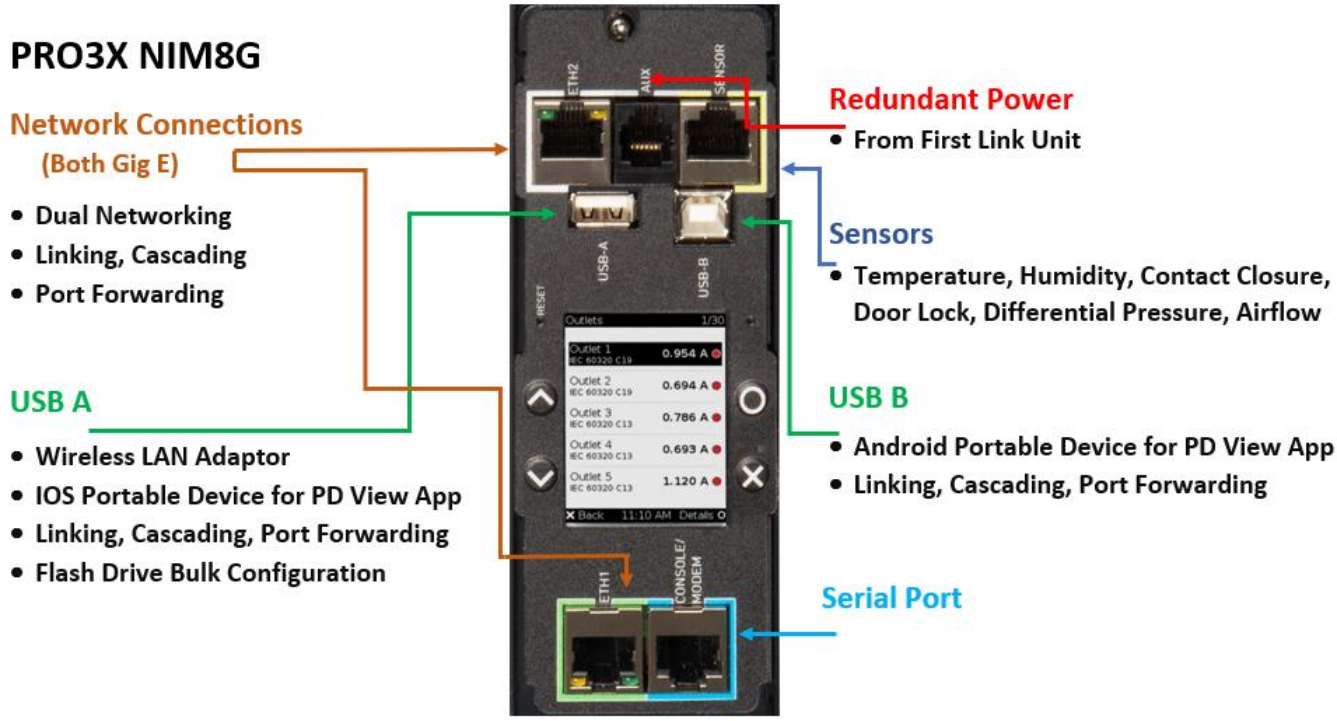
RAMLock works when the blade of the locking mechanism goes against the shell of the plug. With this mechanism, RAMLock provides enough retention for security but not so much retention to require tools or both hands to unplug the cable.

The benefit in the data center is the easy and convenient retaining of a cable using only one hand. In addition, RAMLock cords cannot be bumped or vibrated out.

Chapter 3: NIM8G Controller Board

Server Technology's PRO3X PDU was designed with a new NIM controller board, the Raritan NIM8G Xerus, the industry communication standard for many high-density data centers.

The following graphics illustrate the NIM8G controller board, including port connections:



Highlights of the NIM8G Controller Board:

- Hot-swappable (Contact Server Technology Technical Support to coordinate getting a new network card.)
- Redundant failover power through the first link PDU.
- V8-based controller designed for Server Technology's PRO3X form factor
- Color matrix LCD

NIM8G Specifications

The definition of a V8-based controller is the micro-controller use of **ARM Cortex A5** (Atmel SAMA5D21) with **Xerus** open firmware architecture.

CMA-NTWK-0024-01/PRG

- Micro-controller: ARM Cortex A5 500 MHz (Atmel SAMA5D21)
- Memory: 32M SPI Flash / 128M DDR2
- Interface (External):
  - 2x 10/100/1000 Ethernet
  - 1x USB 2.0 type B
  - 1x USB 2.0 type A
  - 1x Console/Modem
  - 1x PX Sensor
  - 1x STI Link Interface
- Interface (Internal):
  - 1x STI Internal I2C
- Display: TFT LCD
- No beeper

Chapter 4: PRO3X Hardware Menu Options

The following displays are samples of the menu options you may see on your PRO3X unit for the PDU Linking feature. Each unit in a PDU Linking chain displays its own PDU data (inlets, outlets, sensors, alerts, etc.)

Hardware Displays Examples for Master and Link Units

Master Unit:

From the following example of the master unit display, navigate the options for displaying Link PDU identification and status, and to confirm the master unit that is controlling the link unit in the chain.

- Can show alarms, which may be triggered by link units.
- PDU information shows a list of link units with host name/IP address, model, device name, serial number, firmware version, and communication status.

Note: These samples are generic and may not look exactly like the menu options and PRO3X product SKUs displayed on your PDU.

Link Units:

- No display of alarms (no event engine on link units)
- PDU information shows the master IP address

Chapter 5: PDU Linking on the PRO3X

Overview

The PDU Linking feature allows the linking configuration of a single master PDU unit to multiple link units for faster and more efficient power management, as only one IP address is required to communicate with up to 8 linked units. Only one master unit is connected to the network in PDU Linking, which allows a cost-efficient PDU operation and networking infrastructure.

The master PDU is the first PDU in the chain. The user configures the PDU as the master during setup with up to seven link units connected in sequence in the chain. The master PDU has full knowledge of the location of the connected link units in the chain, as well as the power and environmental information of all link units.

When you create a master and link configuration in a chain, you log in to the master unit with visibility to control both the master unit and the connected link units from within the GUI, SNMP, and CLI.

The administrator privilege is required for all management actions (adding, configuring, releasing) of the PDU Linking feature. Each PDU in the chain can be monitored and managed from anywhere by the network protocols HTTP(S), SNMP, SSH, Telnet, and Modbus.

All units in the linked chain should be the same model PDU. All units must run the same firmware version, which can be upgraded respectively for each unit in the chain.

The first link unit can provide backup power to the master's network card to maintain connectivity in the event the master unit loses input power. This arrangement requires two cables between the master PDU and the first link unit. (See linking illustration on right.)

PRO3X PDU Linking: One master unit with up to seven link units. Two cables needed between the master and the first link unit – one for linking and the other for redundant back feed power.

PDU Linking FAQs

What's the difference between a "master unit" and a "link unit"?

Master and link units are the same model PDUs that are equal to each other, and each has its own IP address. You designate a PDU as the master unit by logging into the unit and then adding a link unit. The first unit becomes the master, and when the first link unit is added, the master unit is automatically assigned PDU ID "1", which is reserved to identify a master unit only, and the ID "1" cannot be edited. A connection between the master and the link unit has now occurred and the chain is formed.

As you continue to add link units to the chain as desired (up to seven link units), you select Link ID "2" through "8" for the Link ID numbers. (PDU ID "1" was reserved for the master). Notice that the Link ID "2-8" is the sequential number of each link unit that you select as you add the unit to the chain, and once selected, the Link ID cannot be edited.

When the chain is established with a single master unit, and one or more link units, communication occurs with the master unit through its IP address. The master unit, in turn, communicates to the other link units in the chain through their individual IP addresses, which optimizes power monitoring and PDU management.

Which Server Technology PDUs can be linked?

With network connectivity, the PDU Linking feature supports PRO3X SKUs for Smart, Switched, and Switched POPS models. **Note:** All units in the linking chain should be the same PRO3X models.

Can master units be linked together?

No. Once a unit is designated as the master unit in a chain, it cannot be linked to a master unit in another chain. A master unit can only be linked to one or more link units in a chain.

How many units can be linked?

Including the master, a full chain can include a total of eight units. The first unit added is designated as the master unit with the ID "1". Each unit you then add to the chain is designated as a link unit, beginning with ID "2" and ending with ID "8".

What is re-linking?

Re-linking is a required function when a link unit no longer recognizes or responds to the master unit, most likely caused if the link unit was reset to factory defaults. The status of the disassociated link unit will be displayed as "Access Denied". Selecting the link unit when in this status displays the Re-link button that allows reconnection of the link unit in the chain for regaining device control. **Note:** Re-linking uses the same Link Unit ID and hostname, but you will need to reauthenticate with your login credentials.

What user privileges are required for managing the PDU Linking configuration?

Administrative privileges are required for both the master unit and link unit. To add a link, your administrative login account is required, but after that you only log in to the master to manage the chain, as all link units in the chain are visible in the user interface from the master unit view.

What happens if the connection is lost between the master and link units?

If the network connection is lost, these link unit functions will still work:

- energy accumulation
- local display (regular metering values and alerts of raised thresholds)
- maintained outlet states

… and these link unit functions will stop working:

- event log entries are lost
- event engine rules/alarms
- remote access to the link unit
- synchronization of master settings and time when not using NTP

Which system areas of the master and link units are automatically synchronized?

The master PDU periodically checks link unit reachability. You can define rules to be alerted when communication with a link unit fails, such as a system alarm. Some link unit settings are automatically synchronized with the master:

- Peripheral device settings
- Front panel privileges and default view
- USB host port lockdown
- Time and date settings
- General data logging settings

How are firmware updates handled?

Uploaded firmware images in the GUI are automatically distributed to all link units at the same time. Starting a firmware update requires the same image to be uploaded to all units.

Which network setup modes are supported by PDU Linking?

For the underlying network, the PDU Linking feature has multiple setup modes that can be used together with full-featured cascading:

Independent PDU Setup: All PDUs have their own regular IP address; they don't need to be in a physical chain to be logically chained; the user communicates only to the master using its normal IP address; the user configures networking of the units and then adds link unit via the Web GUI, CLI, or USB.

Bridged Setup: Same as Independent PDU Setup , but the PDUs are physically connected as a chain, either by ethernet or USB; the configuration steps are the same as with Independent PDU Setup.

Port Forwarding Cascade: The PDUs are physically connected as a chain, either by Ethernet or USB. Only the first PDU (which is the master) is connected to your network with the IP address you assigned; the other PDUs will get automatically-assigned private IP addresses which are not visible; you can configure both PDUs at one time with a USB stick, or configure the network first and then add link units.

Note: When referring to “cascading”, or the physical chaining of units, although the mixing of connection types (Ethernet and USB) **is not recommended in the cascade**, the mixing is possible with these restrictions:

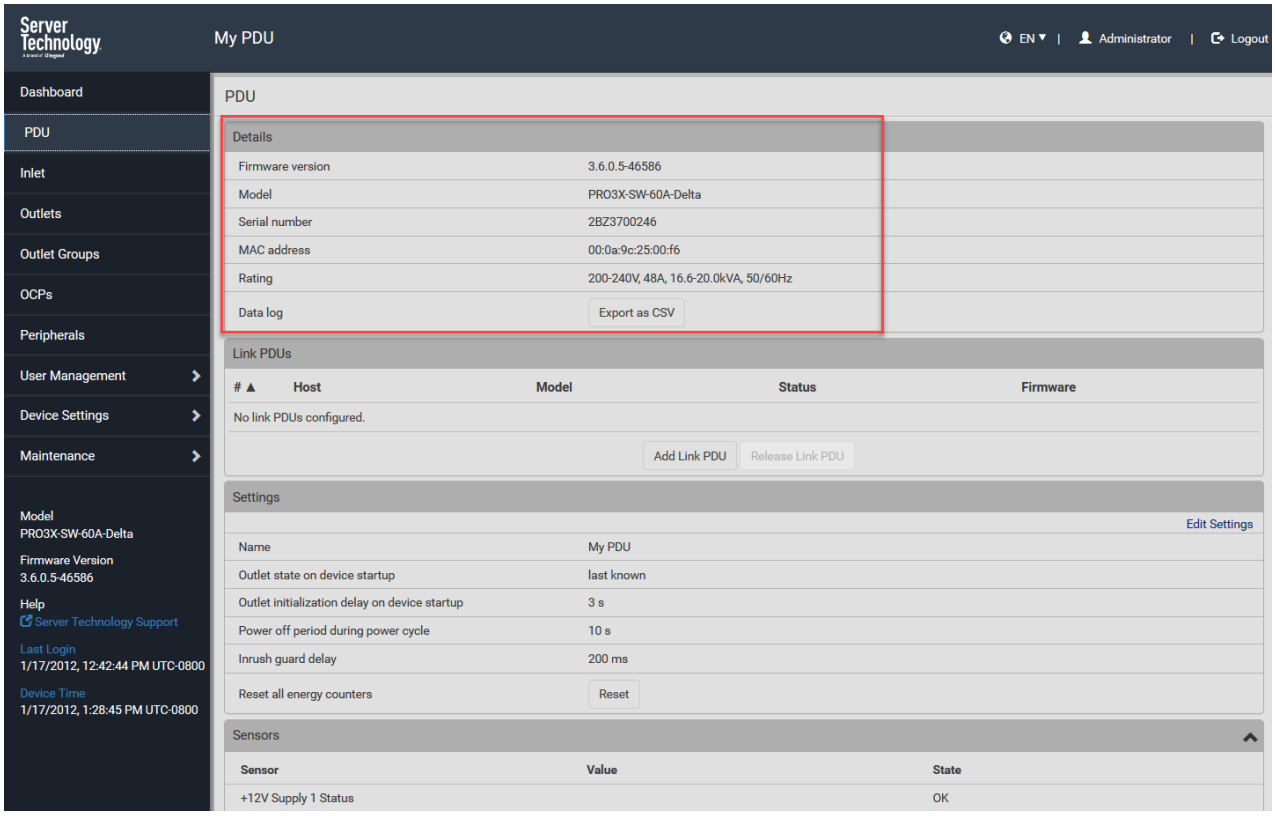
- In Port Forwarding mode, you must build a single, linear chain where each unit has exactly one upstream device and optionally one downstream device.
- In Bridging mode, you must not build any loops; in other words, multiple paths between two units.

PDU Linking in the Web GUI

Designating the Master Unit

Log in to the PDU you want to designate as the master unit. When you add the first link unit, a chain is established between the master and the new link, and the master becomes ID “1”.

To view and manage a link chain, log in to the master unit, as displayed on the PDU page:



The PDU page displays the following information about the master PDU:

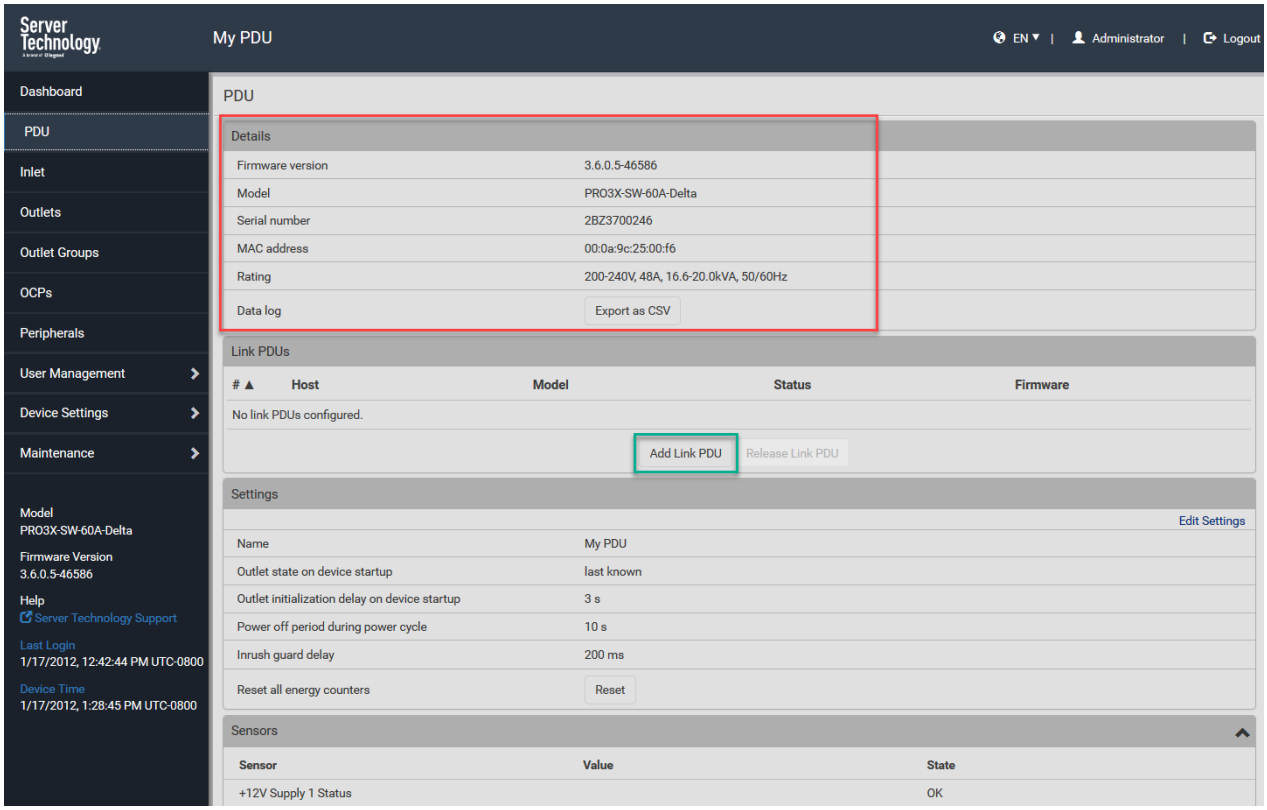
- Firmware Version
- Model
- Serial Number
- MAC Address
- Input Power Rating
- Data Log

Note: The ID of the master unit is automatically assigned the ID “1”, which cannot be edited.

Adding a Link Unit

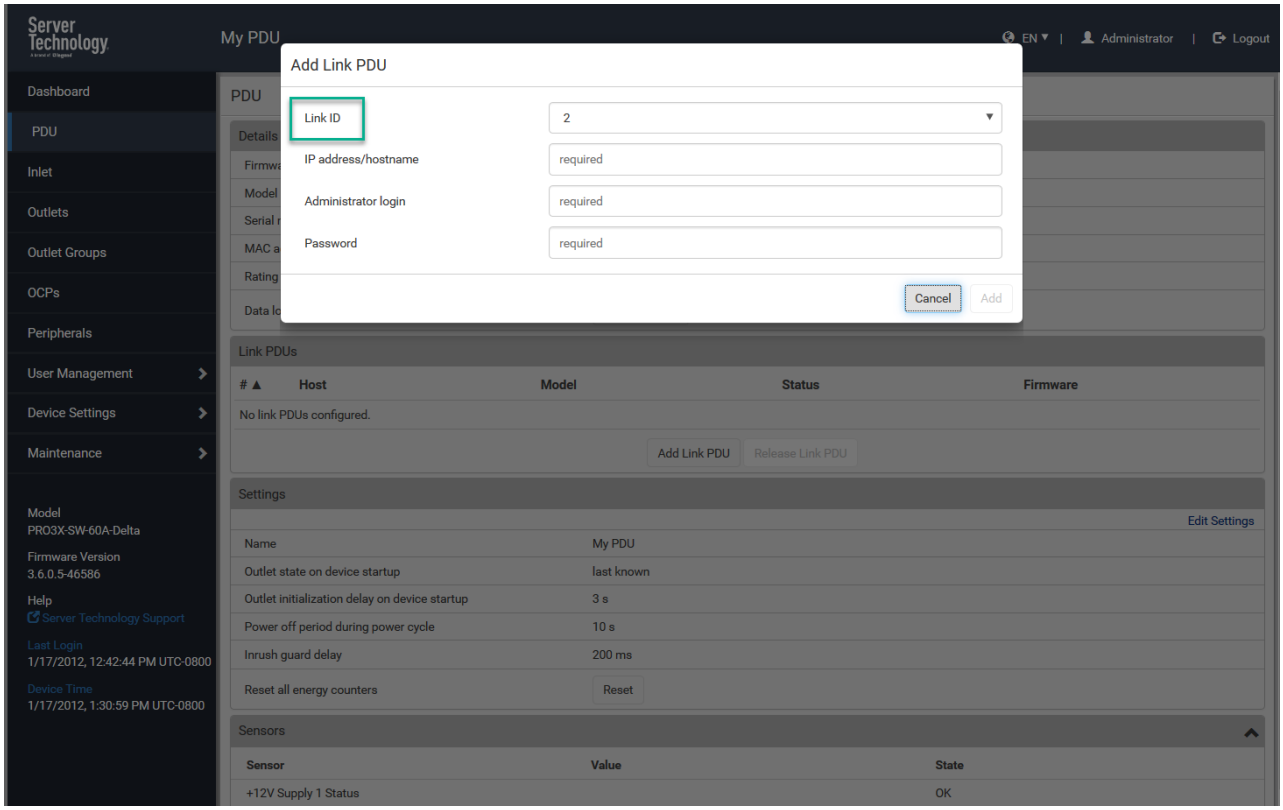
A link unit (up to seven units) can be added to a single master unit.

On the PDU page, the master unit is displayed as highlighted in the following screen example in red. Notice the following section “Link PDUs”, is designed for the PDU Linking feature, where multiple PDUs added to the chain are displayed as the link units. The Add Link PDU button, highlighted in green in the screen example, also displays in the Link PDUs section.



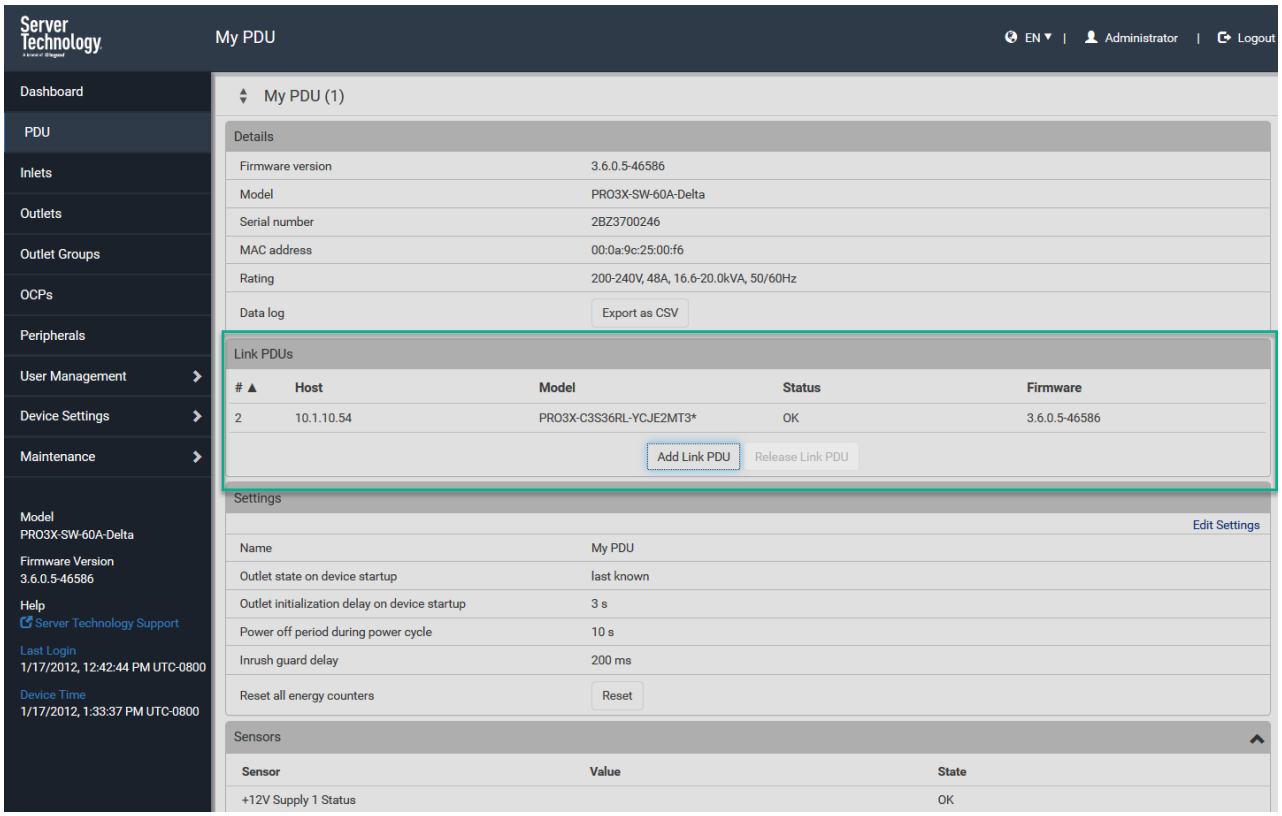
To add a link unit:

1. Log in to the master PDU as shown displayed above in the PDU page.
2. Click Add Link PDU. The following add box displays:



3. The Link ID is populated as the next available ID number (2-8), assigned sequentially as each link unit is added to the chain to identify the link unit in the user interfaces. **Note:** From the drop-down, you can manually select the desired Link ID to order the link units in the chain as desired. Once associated with a link unit, the Link ID cannot be edited.
4. Provide the IP address of the link unit.
5. Provide the login credentials for the link unit. **Note:** If the link unit has factory settings, you will be prompted to set the new password.
6. Click Add.

The new link unit is added on the PDU page with the master unit, in a list in the Link PDUs section. All link units added to the chain in this way are now managed by the single master unit.



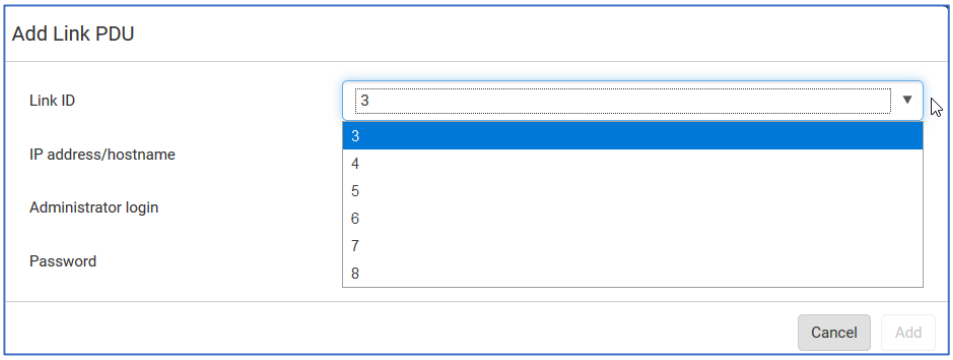
The PDU page displays the following information about the link unit:

- Link ID
- Host/IP Address
- Model Number
- Operational Status
- Firmware Version

About the Link ID

The PDU ID “1” is automated and reserved internally for the master unit. The master unit’s PDU ID “1” cannot be edited.

The Link ID “2-8” is available for you to select as the ID for each of the link units you add to chain. From the Link ID drop-down, you can select the desired Link ID to manage the link units in the chain. Once selected, the Link ID cannot be edited.



What data does the master unit manage for the link units?

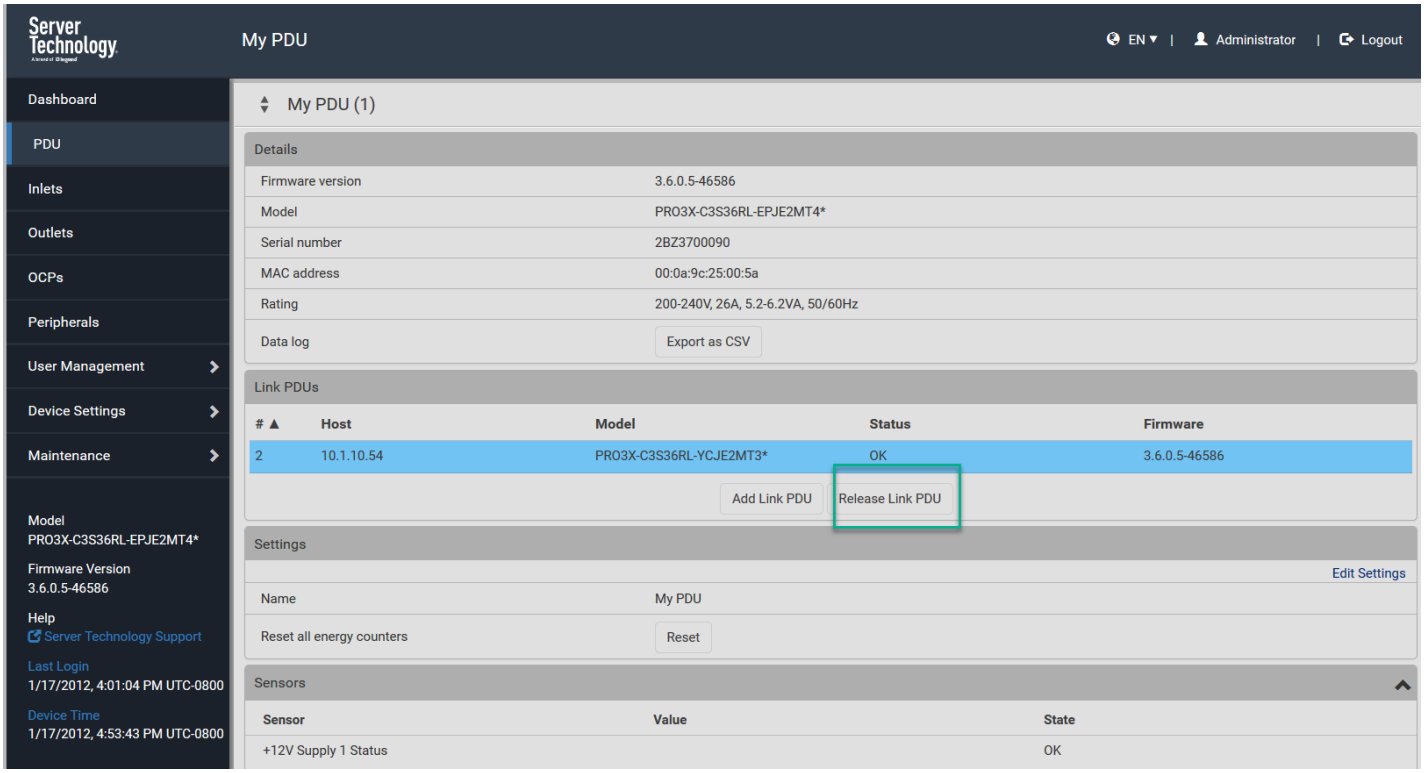
The master unit manages the following functions for the entire chain of linked units:

- User management and authentication – configured only on the master.
- Date and time – the master synchronizes its date and time settings to link units. If NTP is not used, then the synchronization interval is every 10 minutes.
- Device settings – only the master device settings are configurable, except for Network Settings. Some settings will be synced to link units. The serial port is configurable for the master only; link units use the console.
- Data model settings – such as outlet names, thresholds, peripherals, etc., are configured on the master and stored on link units.
- Lua scripts – Communication with link units in a Lua script is possible.

Releasing a Link Unit

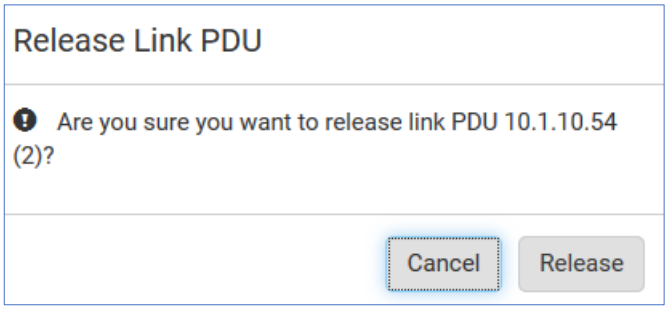
Releasing a link unit means the unit is separated from the chain and the unit then becomes standalone. The master unit no longer has access to the released link unit.

Note: If a release action is attempted on a link unit when the unit is an unreachable state, a warning message displays, and the master will not recognize the link unit. A factory reset will be required on the link unit.



To release a link unit:

1. From the PDU page, in the Link PDUs section, click a link unit to select it.
2. Click **Release Link PDU**.
3. A confirmation prompts to cancel or release:

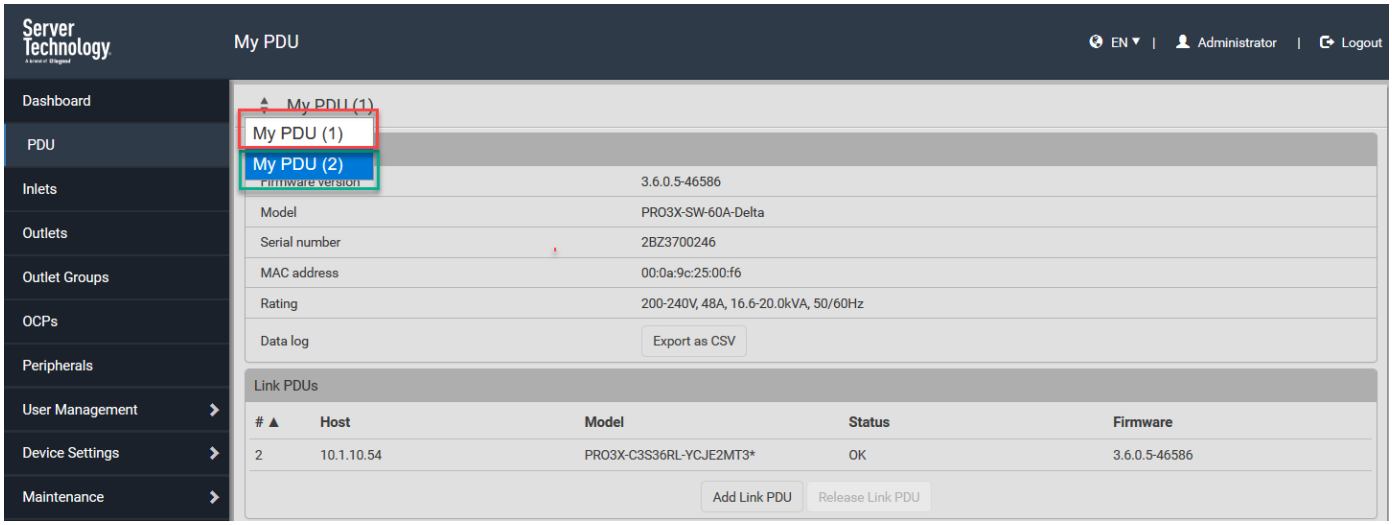


4. If released, the link unit is removed from the PDU page.

Switching to a Different PDU

Switching PDUs is a control function noted by the Switch control in the in the upper left corner of the PDU, Outlet, Outlet Groups, OCPs, and Feature Ports pages, called out in the following screen example.

Displayed data in the GUI defaults to the master unit. The Switch control allows you to switch quickly from a master page, for My PDU (1) red in this example, to a link unit page, for My PDU (2) green in this example, and back again to the master.



To switch to a different PDU:

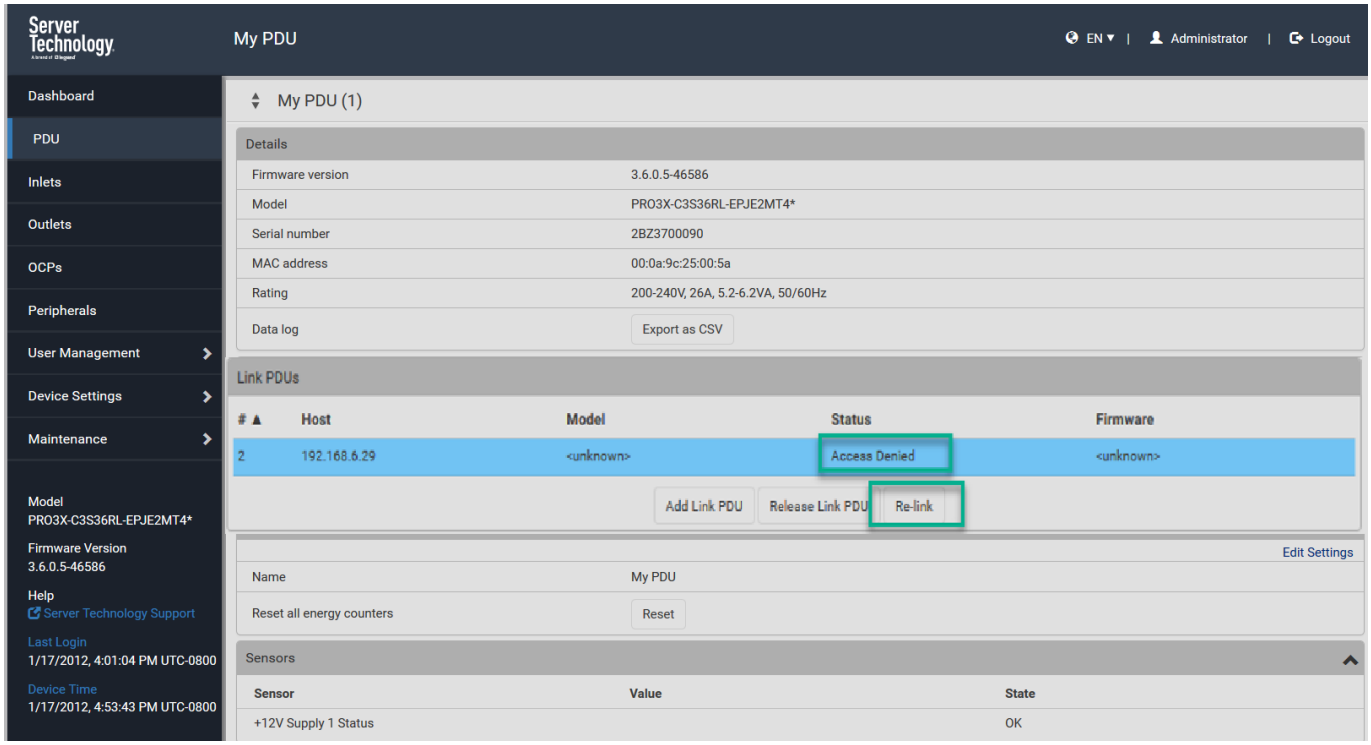
1. Click the Switch ▲▼ control.
2. Select one of the link PDUs “My PDU (2-8)” from the drop-down list.
3. The page displays data for the selected link PDU.
4. To return to the PDU page for the master, select the master PDU “My PDU (1)”.

Note: The Switch control is only available when there is at least one link unit in the chain; otherwise, the page defaults to displaying only the data of the master PDU.

Re-linking a Link Unit

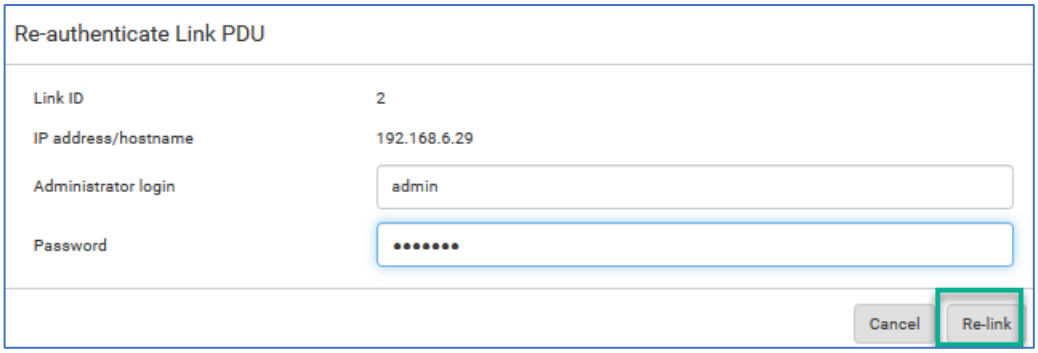
In PDU Linking, Re-link is a required function when a link unit no longer recognizes or responds to the master unit, most likely caused when the link unit has been reset to factory defaults. Resetting to factory defaults causes the linked unit in the chain to be unreachable, and it would have to be removed from the chain manually.

If reset to factory defaults, the status of the disassociated link unit will be displayed on the PDU page as “Access Denied”, shown below.

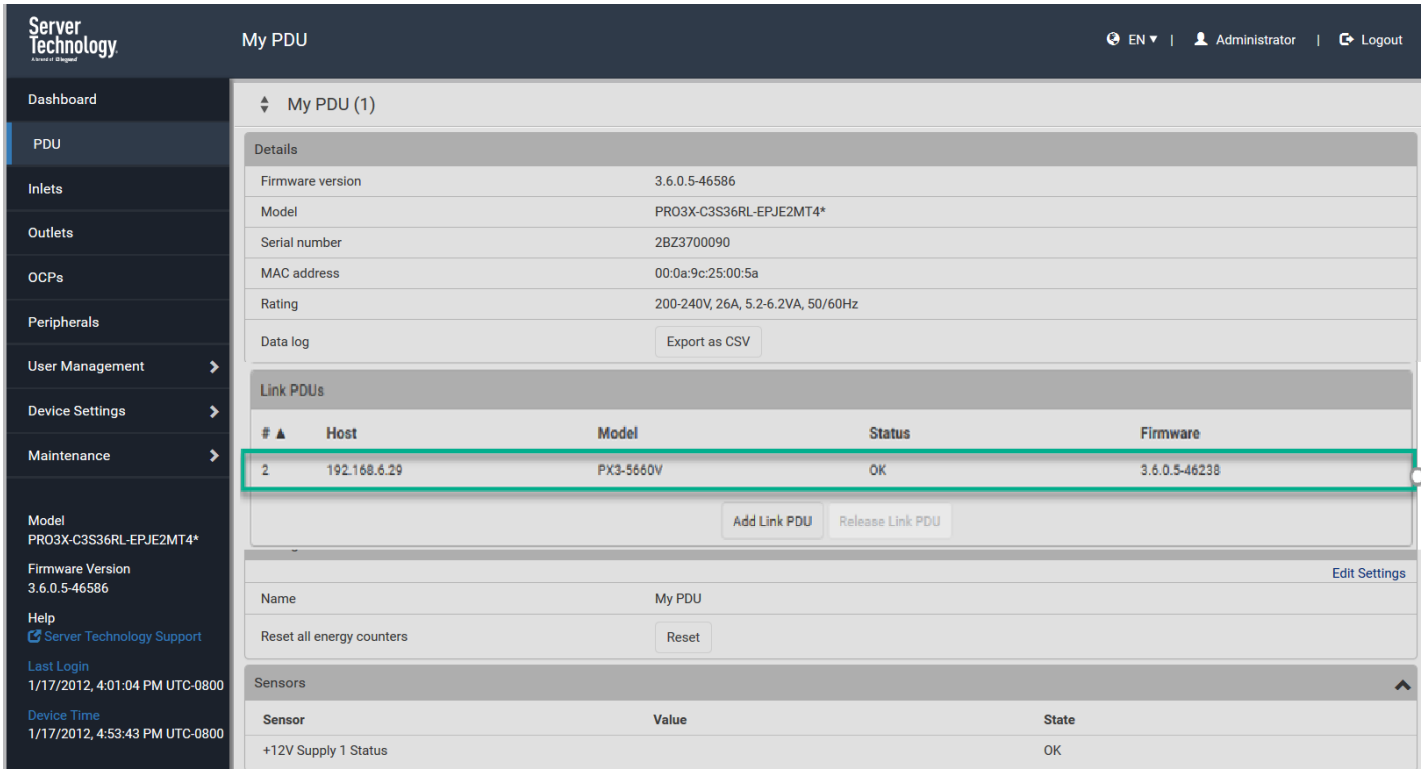


To re-link a link unit:

1. When you select the link unit in the “Access Denied” status, the Re-link button displays, as noted above.
2. To reconnect the link unit in the chain, and to regain full control of the unit, click Re-link.
3. Although re-linking uses the same Link Unit ID and hostname of the unreachable unit, you will need to reauthenticate with your login credentials shown below.
4. Click the Re-link button.



5. The status of the link unit changes to “OK”.



Viewing Link Unit Information

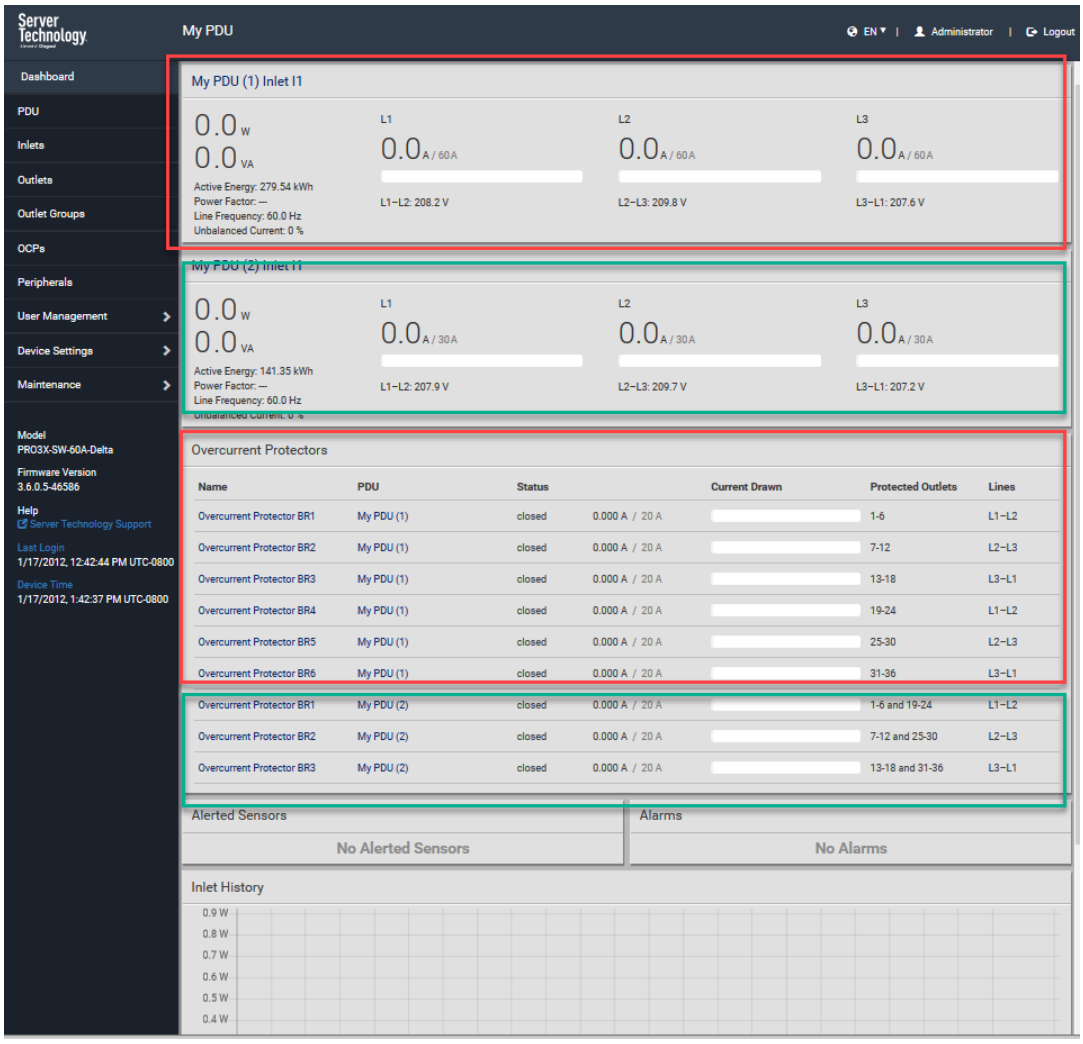
When a link unit is added to the chain, the master unit view (through the GUI) allows full access to the operational data of the link unit. For example, using the navigation tabs of the GUI, link unit data is displayed in several pages: the Dashboard, PDUs, Inlets, Outlets, Outlet Groups, and Peripherals.

Dashboard

The Dashboard shows inlets, OCPs, alerted sensors, and inlet history for the entire linked chain.

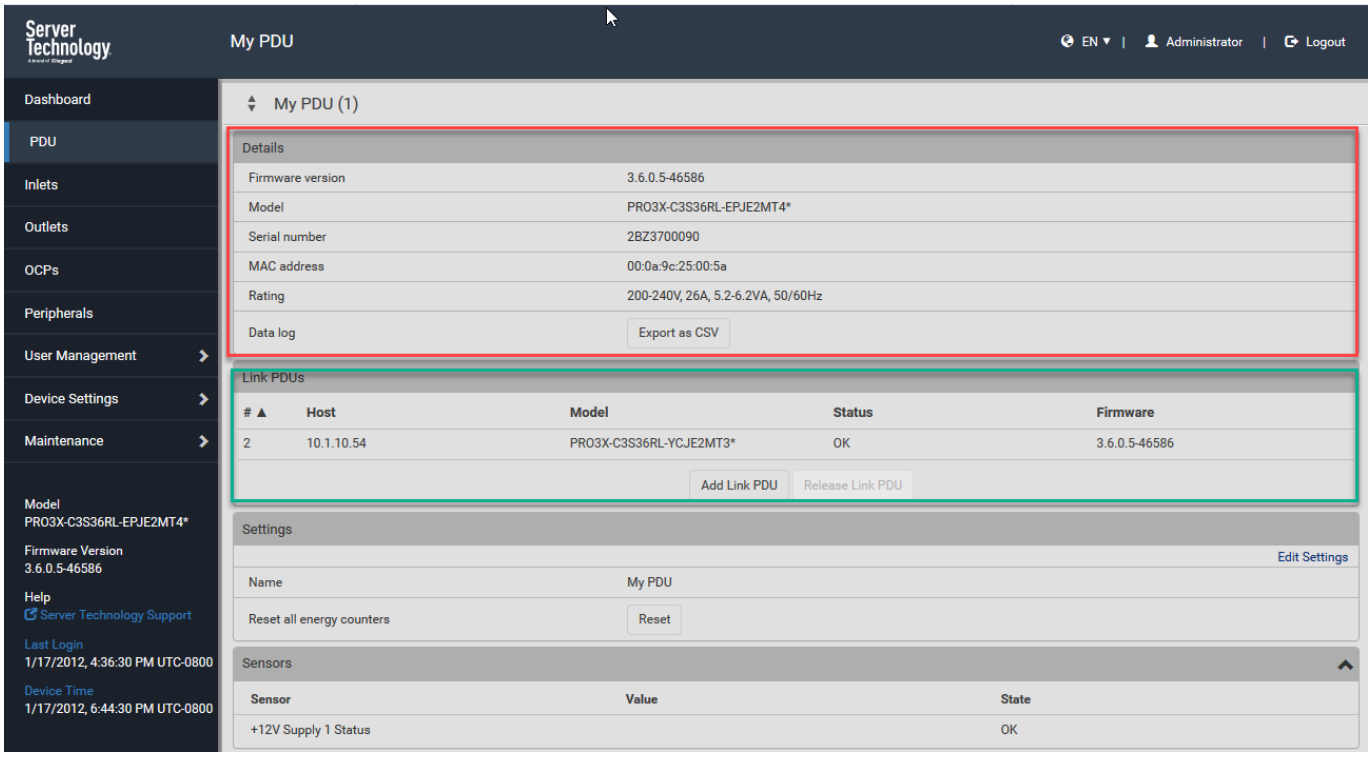
In this example, data for the single inlet of the master “My PDU (1)” Inlet I1 (highlighted in red), and the inlet of the link unit “My PDU (2)” Inlet I1 (highlighted in green), are displayed together. The OCPs for the units are also available together on the Dashboard page.

Peripheral sensors are not shown on the dashboard by default. Only sensors (both PDU or peripheral) in warned or critical state are displayed in the Alerted Sensors section.



PDU Page

The PDU page displays the details and settings for the selected unit (master or link). The Link PDUs section is only shown when the master unit is selected. Master section is highlighted in red; link section is highlighted in green.



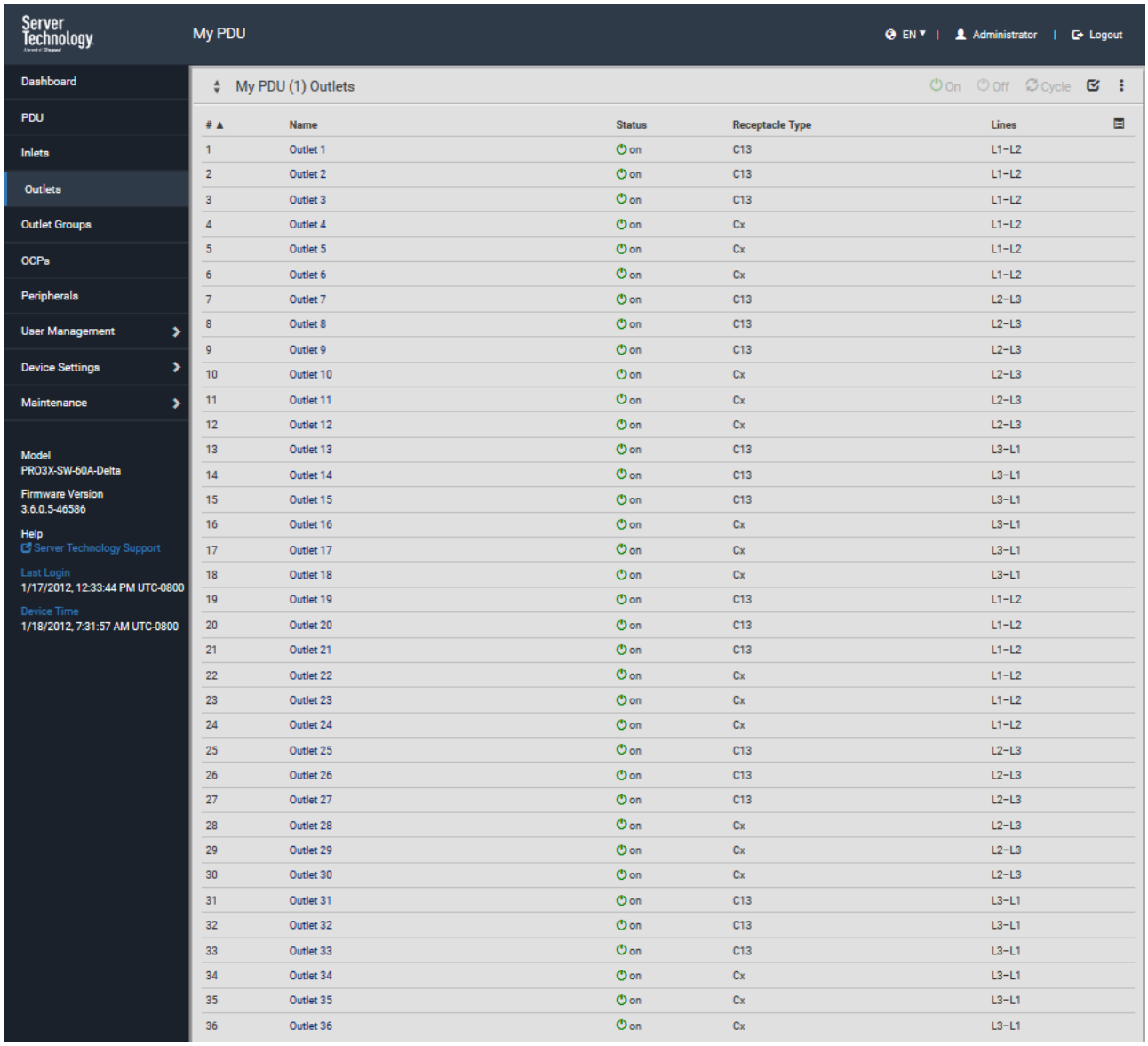
Inlets Page

On the Inlets page, the master unit and link units are displayed together on the same page.

In this example, data for the single inlet of the master “My PDU (1)” Inlet I1, and the inlet of the link unit “My PDU (2)” Inlet I1, are shown together on the Inlets page.

Outlets Page

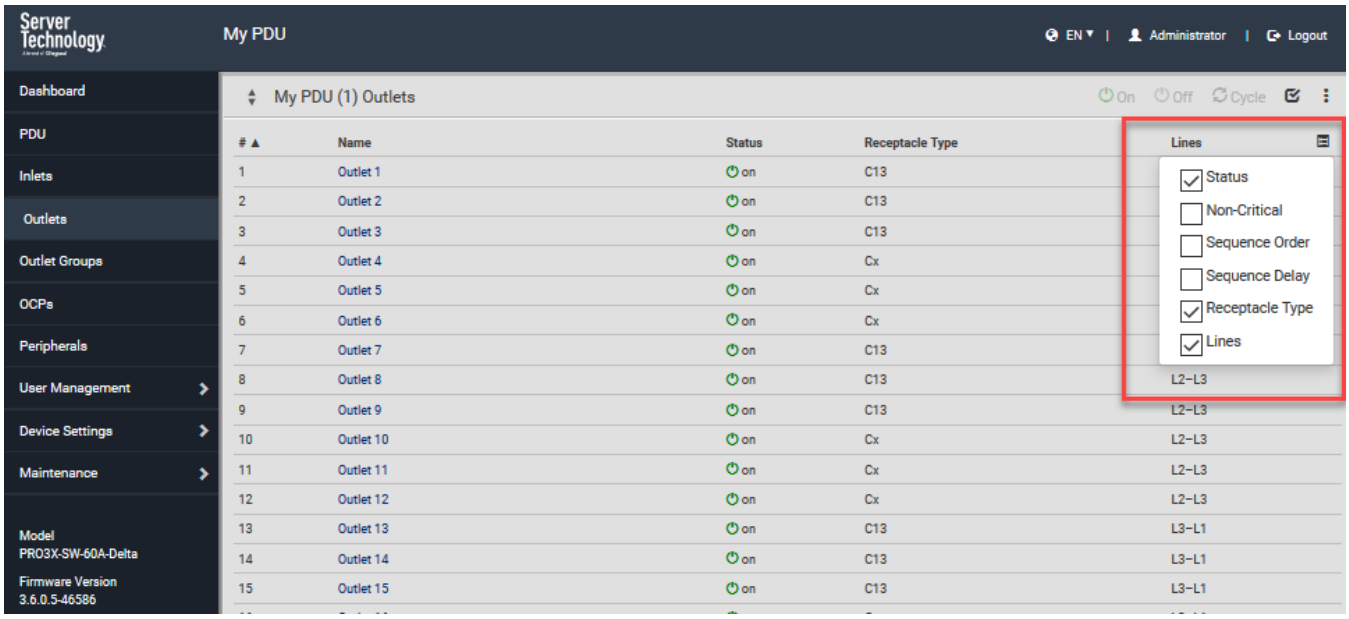
The Outlets page defaults to display only the outlets of the master unit. Note the 36-outlets that are characteristic of the PRO3X PDU.



#	Name	Status	Receptacle Type	Lines
1	Outlet 1	on	C13	L1–L2
2	Outlet 2	on	C13	L1–L2
3	Outlet 3	on	C13	L1–L2
4	Outlet 4	on	Cx	L1–L2
5	Outlet 5	on	Cx	L1–L2
6	Outlet 6	on	Cx	L1–L2
7	Outlet 7	on	C13	L2–L3
8	Outlet 8	on	C13	L2–L3
9	Outlet 9	on	C13	L2–L3
10	Outlet 10	on	Cx	L2–L3
11	Outlet 11	on	Cx	L2–L3
12	Outlet 12	on	Cx	L2–L3
13	Outlet 13	on	C13	L3–L1
14	Outlet 14	on	C13	L3–L1
15	Outlet 15	on	C13	L3–L1
16	Outlet 16	on	Cx	L3–L1
17	Outlet 17	on	Cx	L3–L1
18	Outlet 18	on	Cx	L3–L1
19	Outlet 19	on	C13	L1–L2
20	Outlet 20	on	C13	L1–L2
21	Outlet 21	on	C13	L1–L2
22	Outlet 22	on	Cx	L1–L2
23	Outlet 23	on	Cx	L1–L2
24	Outlet 24	on	Cx	L1–L2
25	Outlet 25	on	C13	L2–L3
26	Outlet 26	on	C13	L2–L3
27	Outlet 27	on	C13	L2–L3
28	Outlet 28	on	Cx	L2–L3
29	Outlet 29	on	Cx	L2–L3
30	Outlet 30	on	Cx	L2–L3
31	Outlet 31	on	C13	L3–L1
32	Outlet 32	on	C13	L3–L1
33	Outlet 33	on	C13	L3–L1
34	Outlet 34	on	Cx	L3–L1
35	Outlet 35	on	Cx	L3–L1
36	Outlet 36	on	Cx	L3–L1

Customizing the Outlets Page

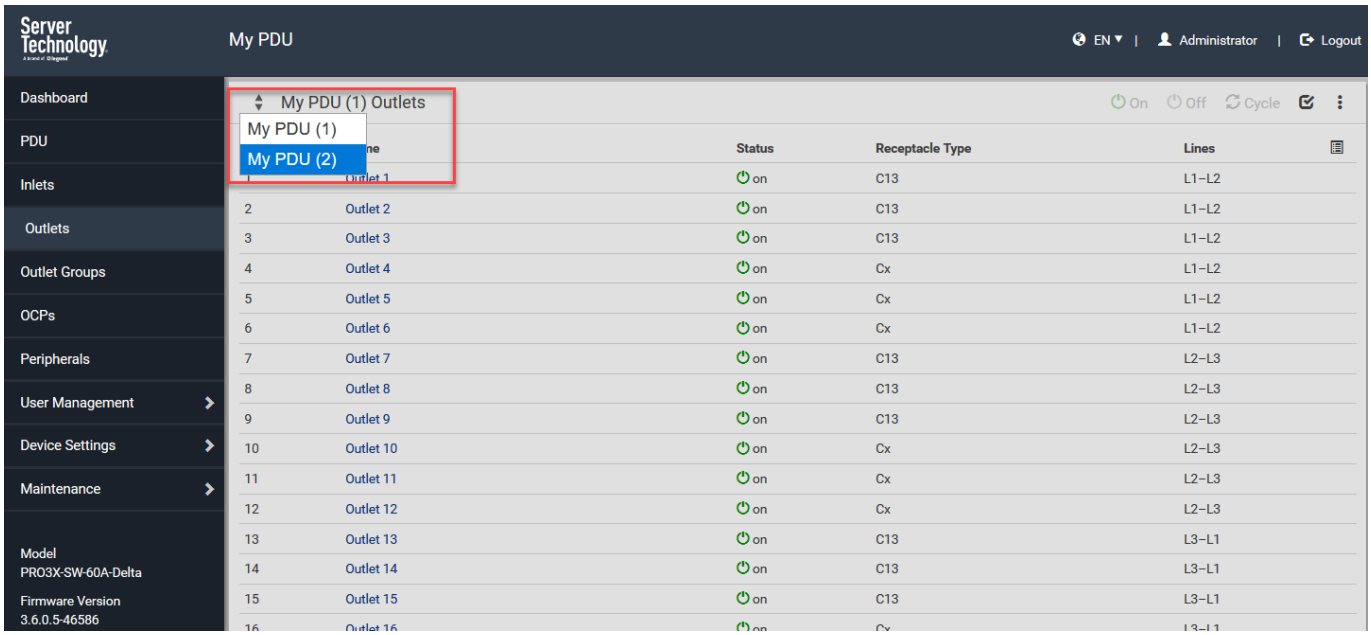
Click the menu icon  in the upper right corner of the screen to display a list of available data columns for the Outlets page. Check the preferred columns to customize how outlet data is displayed on the page.



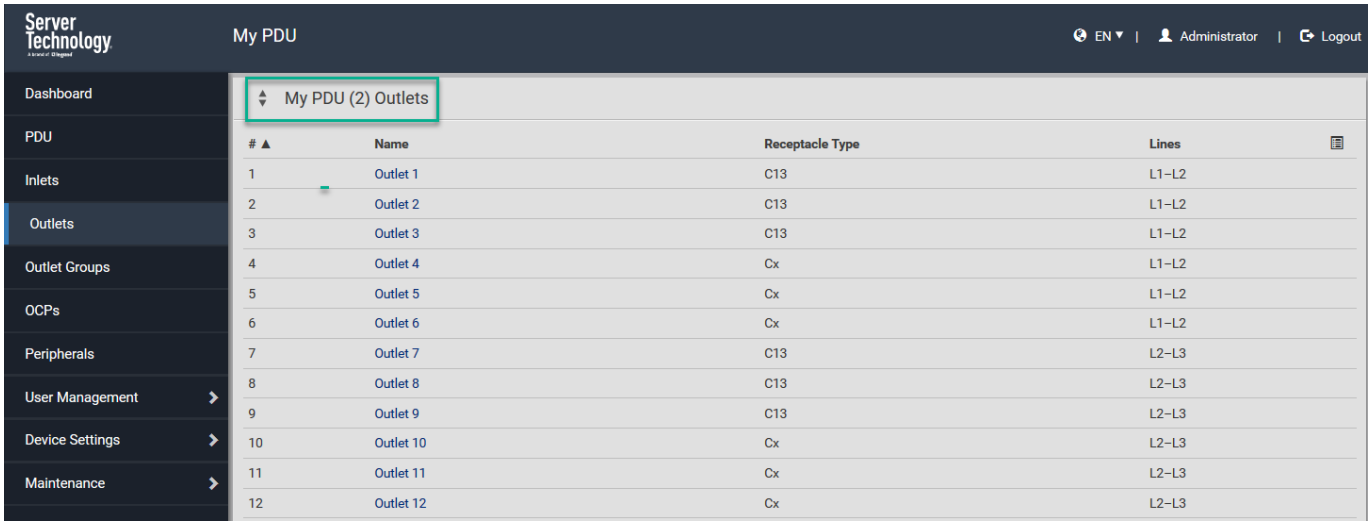
Switching Between Master and Link Outlets

The Outlets page defaults to the master unit's outlets, but you can easily switched the master to the link and back again to view and access outlet information.

1. From the Outlets page drop-down, select the link unit "My PDU (2)" shown in this example. To view outlets for multiple link units, select the link unit by name.



2. Sample of outlets page for Link PDUs, in this example "My PDU (2)". All outlets of the link unit display for viewing and access exactly like the outlets of the master unit.



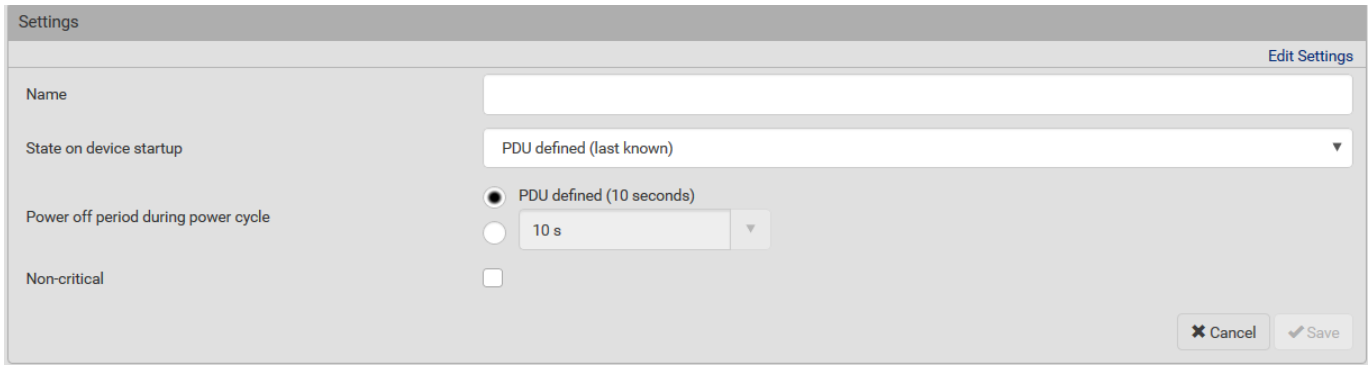
3. You can switch back to the master unit by selecting "My PDU (1)".

Note: The Switch control is only available when there is at least one link unit in the chain; otherwise, the page defaults to the outlets of the master.

Viewing Outlet Details

1. From the Outlets page (either master or link), click to select an outlet in the list. The Details page displays for viewing operational details for the selected outlet.

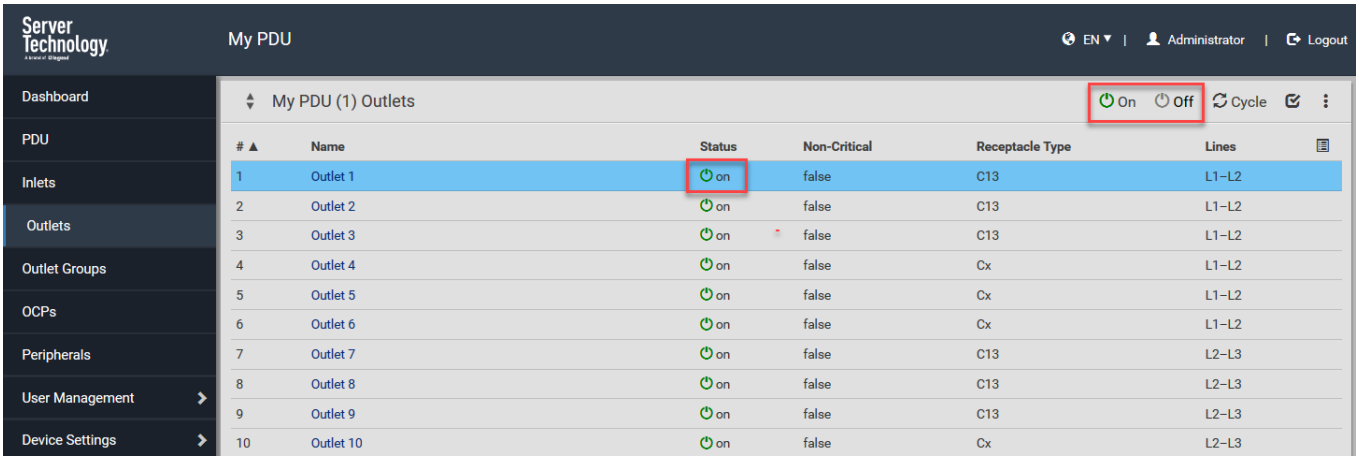
2. Click the Edit Settings link to configure outlet settings.



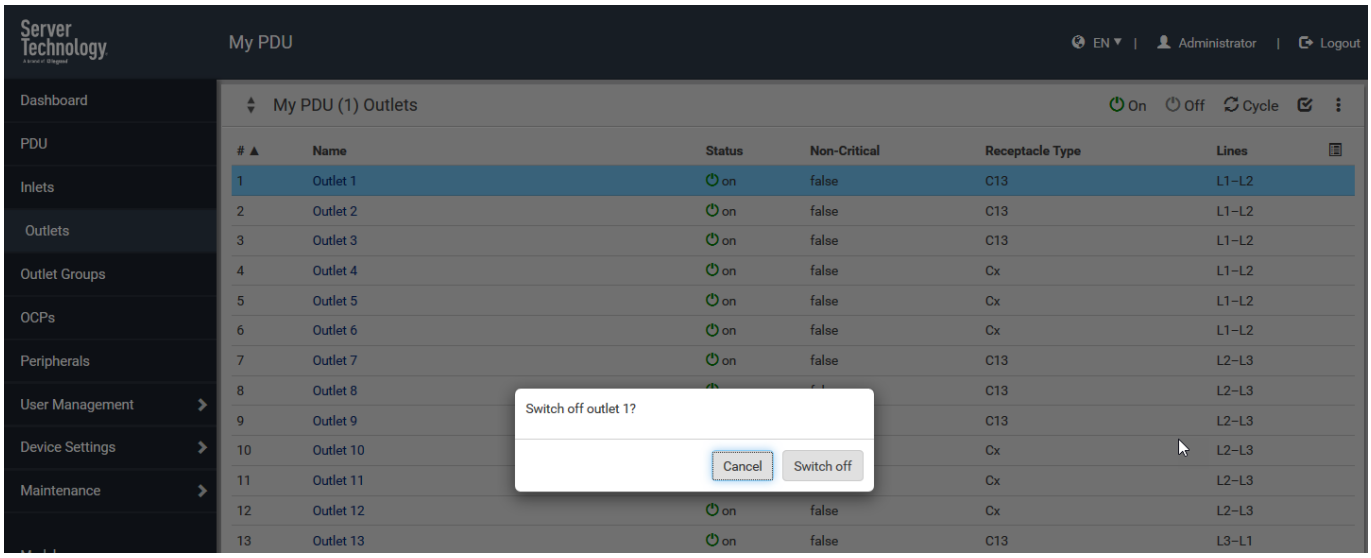
3. Edit name of outlet, if desired.
4. From the drop-down menu, select the “State on device startup”: on, off, last known, PDU defined (last known).
5. Determine power off period during power cycle, and provide the time period in seconds.
6. Check if off time is a non-critical power cycle.

Controlling Outlet Power

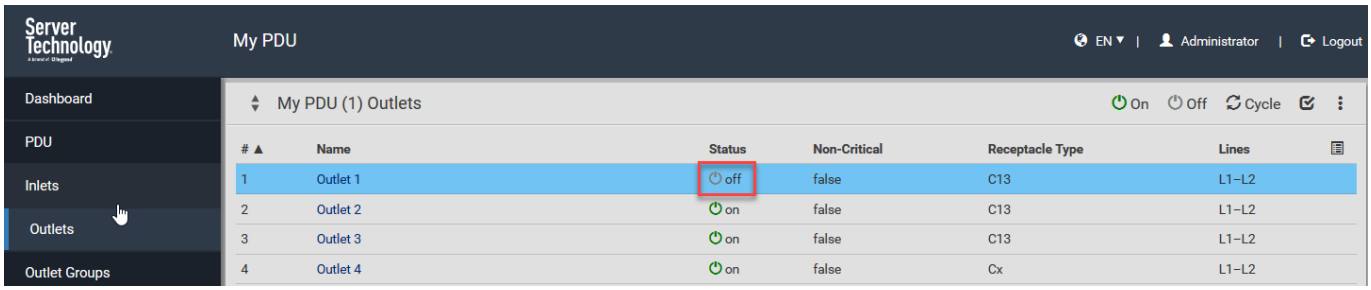
1. Select a specific outlet on the Outlets page (showing On or Off in the Status column).



2. In the upper right corner, click On or Off to control the outlet's power. The following confirmation displays. Click Switch off (or switch on).

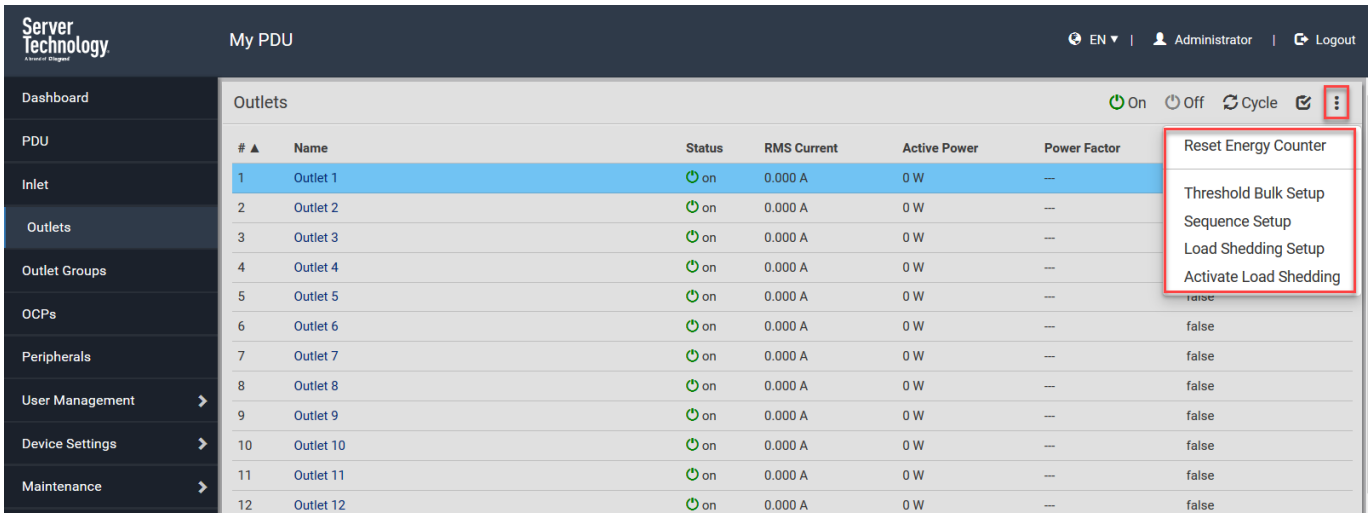


3. The outlet's power status is immediately updated:



Additonal Outlet Functions

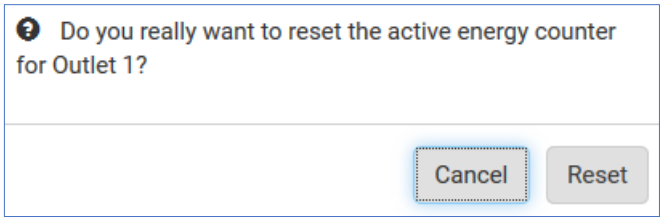
On the Outlets page, click the menu icon  in the upper right corner of the screen to display a drop-down list of additional options for outlets.



Reset Energy Counter

An active energy reading (the total accumulated energy) is not automatically reset. You can reset the energy counter back to zero using the Reset Energy Counter option.

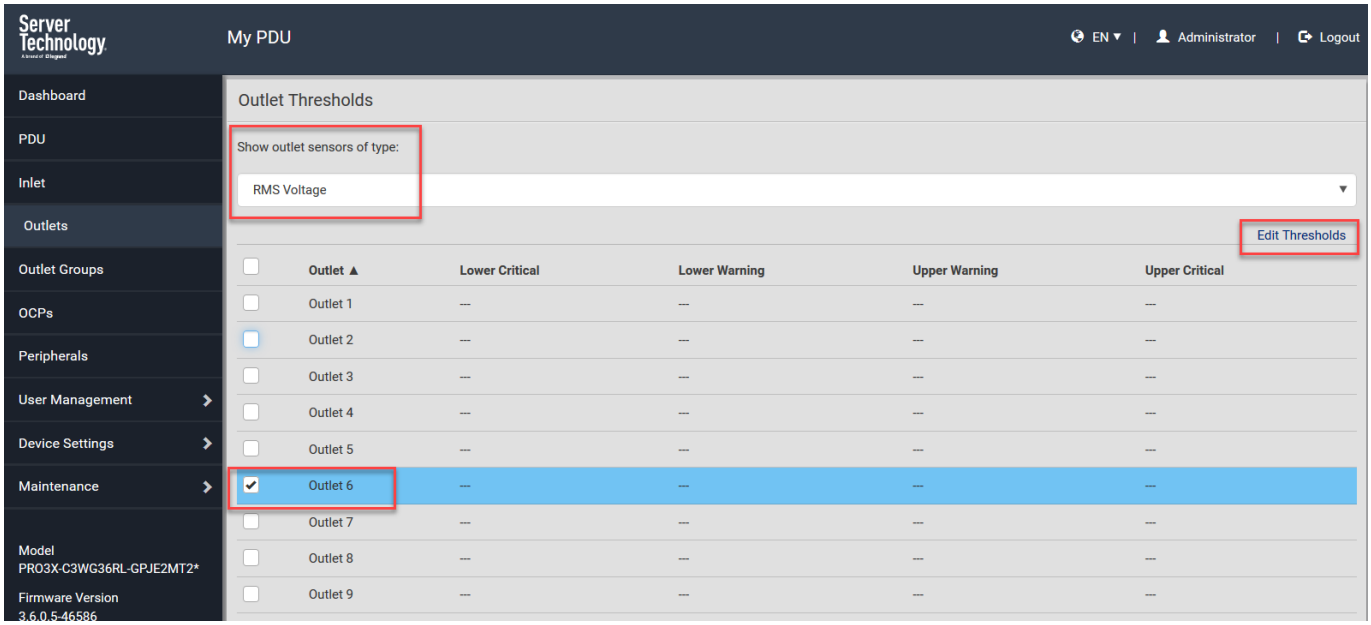
1. From the Outlets page, select an outlet in the list.
2. Select the Reset Energy Counter option.
3. Confirm or cancel the reset action.



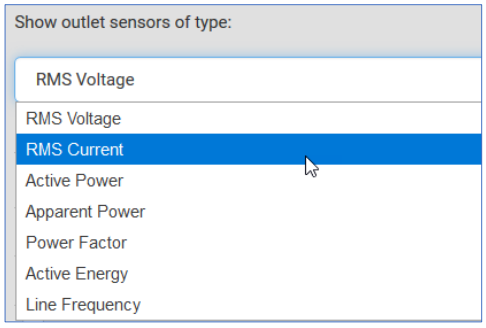
Threshold Bulk Setup

The Threshold Bulk Setup option saves time by allowing you to define and manage threshold paRAMeters on multiple outlets at one time. Upper and lower thresholds can be updated quickly in bulk when selecting multiple outlets.

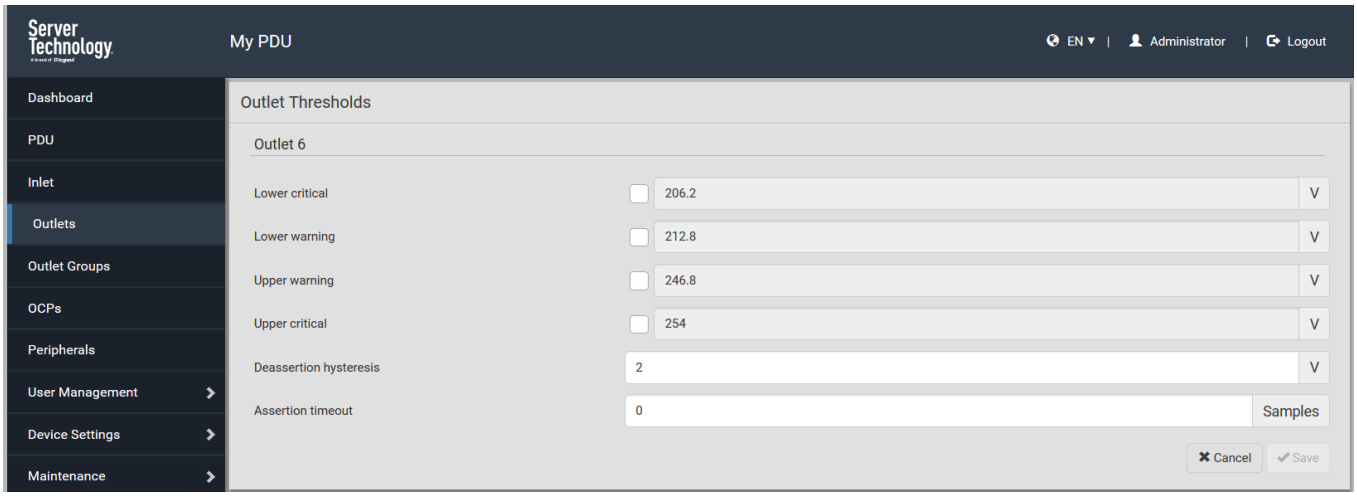
1. From the Outlets page, select the Threshold Bulk Setup option. The following Outlet Thresholds page displays:



2. From the drop-down list, select the outlet sensor type. RMS Voltage is the default.



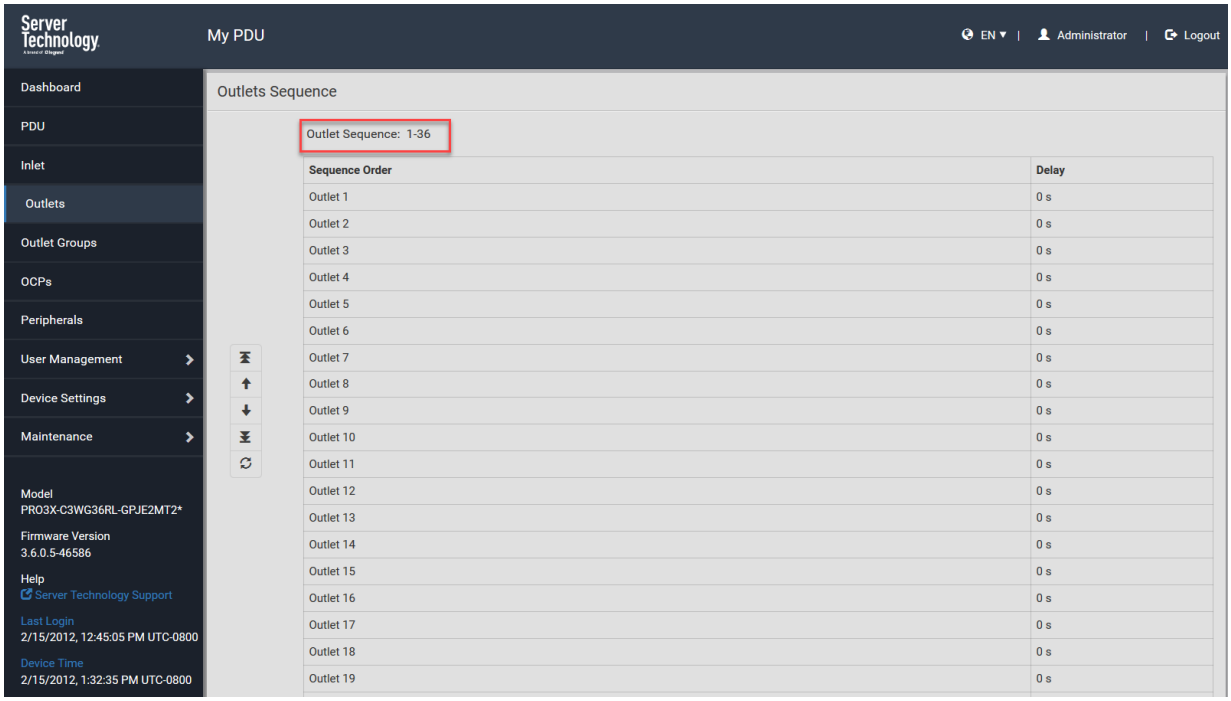
3. Select an outlet in the list. Outlet 6 selected in the above page example.
4. Click the Edit Thresholds link. The Outlet Thresholds page displays where upper/lower thresholds can be updated.
5. Edit Deassertion Hysteresis to determine when a threshold condition is reset.
6. Edit Assertion Timeout to determine (in seconds) when a threshold condition exceeds a threshold for more than the assertion timeout period.
7. Click Save.



Sequence Setup

You can use the power-on sequence option to define a sequence/order for powering on the PDU outlets. User-defined sequences can eliminate in-rush current when multiple PDUs are powered on at the same time.

1. From the Outlets page, select the Sequence Setup option. The Outlets Sequence page displays:



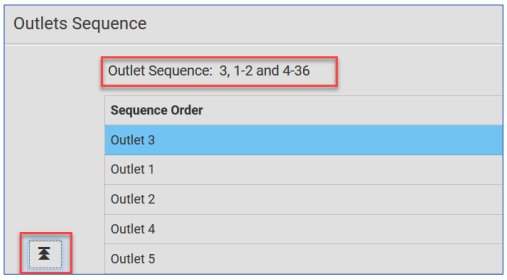
Note: The default outlet sequence is 1-n, as highlighted above for the 36 outlets in the PRO3X PDU. (Only outlets 1-19 are shown in this partial screen capture.)

2. Use the following controls to change the sequence of outlets.

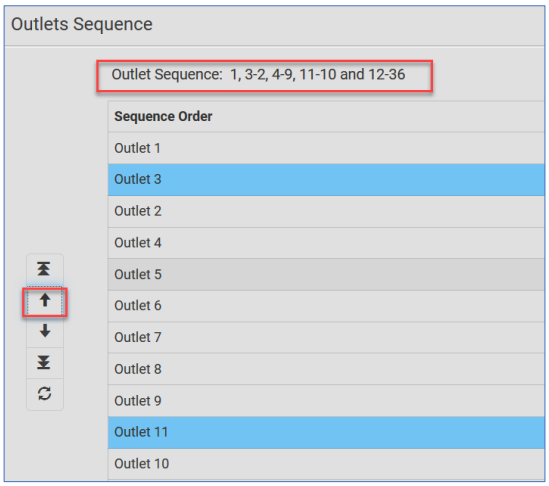
Outlets Sequence - Controls	
	**Move to top of list.** Move a specific outlet to the top of the sequence list to power-on first.
	**Move up**. Move a specific outlet up in the power-on sequence list.
	**Move down**. Move a specific outlet down in the power-on sequence list.
	**Move to bottom of list.** Move a specific outlet to the bottom of the sequence list to power-on last.
	**Reset**. Reset the power-on outlet sequence back to the default 1-n.

3. Note the updated Outlet Sequence heading at the top of the page that reflects your changes in the power-on sequence.

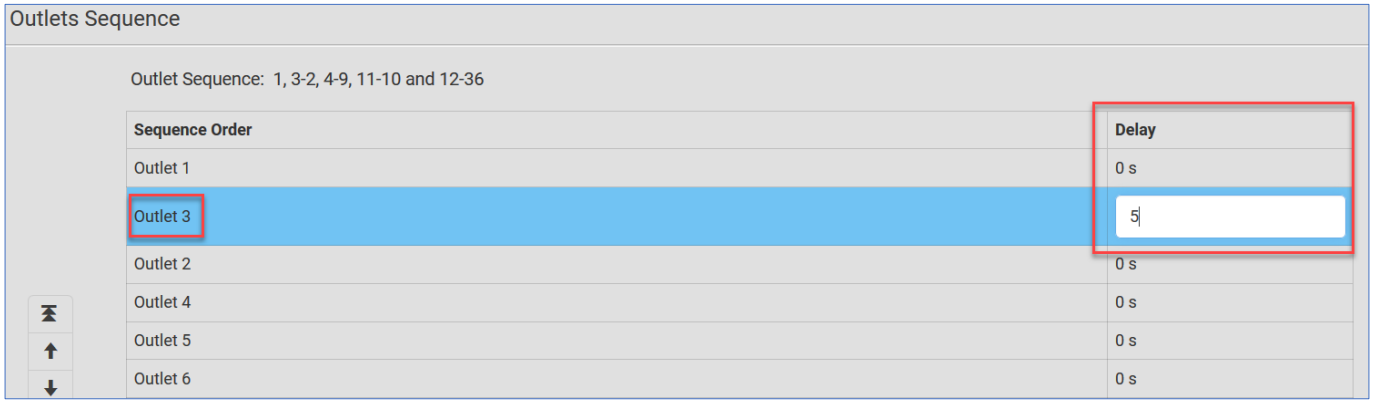
   In this example, Outlet 3 was selected and moved to the top of the sequence list to be powered on first.



   In this example, the Outlet Sequence heading shows the (moved up) new sequence of outlets 3-2, 11-10, and the original sequence of outlets 12-36.



4. Click in the Delay field for a specific outlet in the list and type a delay time (in seconds) before the outlet powers on. The Delay default is 0.

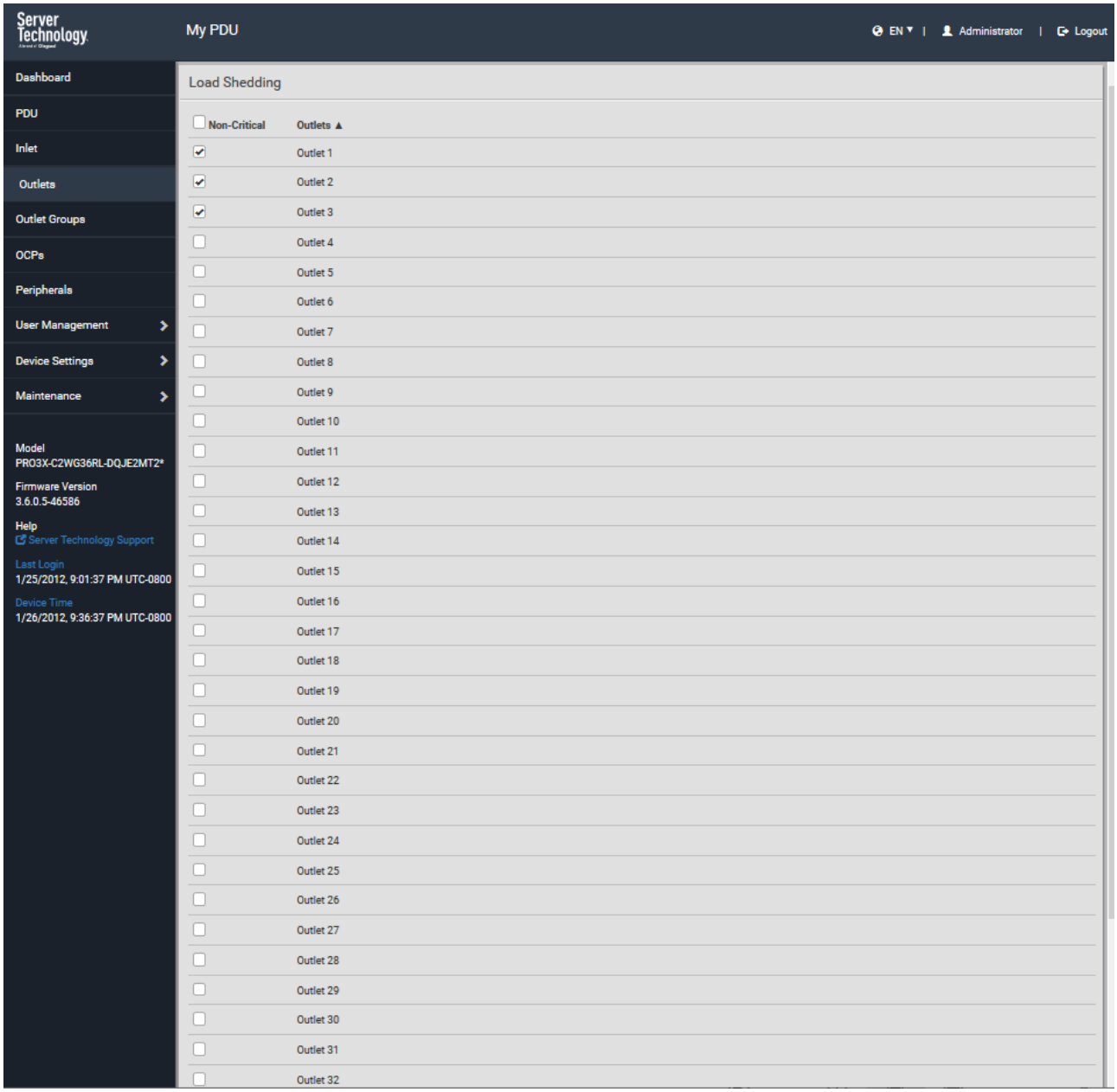


5. Click Save.

Load Shedding Setup

Server Technology's Load Shedding option allows the systematic shutdown of outlet loads.

1. From the Outlets page, select the Load Shedding Setup option. The Load Shedding page displays:



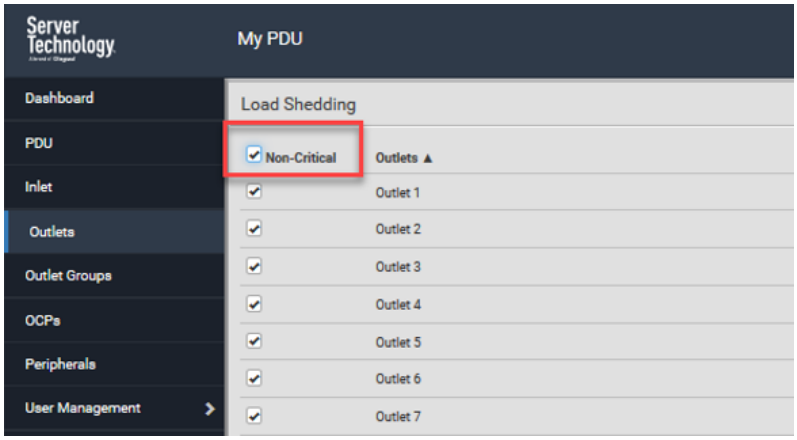
Using the Non-Critical Checkbox:

With Load Shedding, you can sort all PRO3X outlets into two categories: critical outlets or non-critical outlets.

Note the Non-Critical checkbox highlighted in the Load Shedding screen sample below.

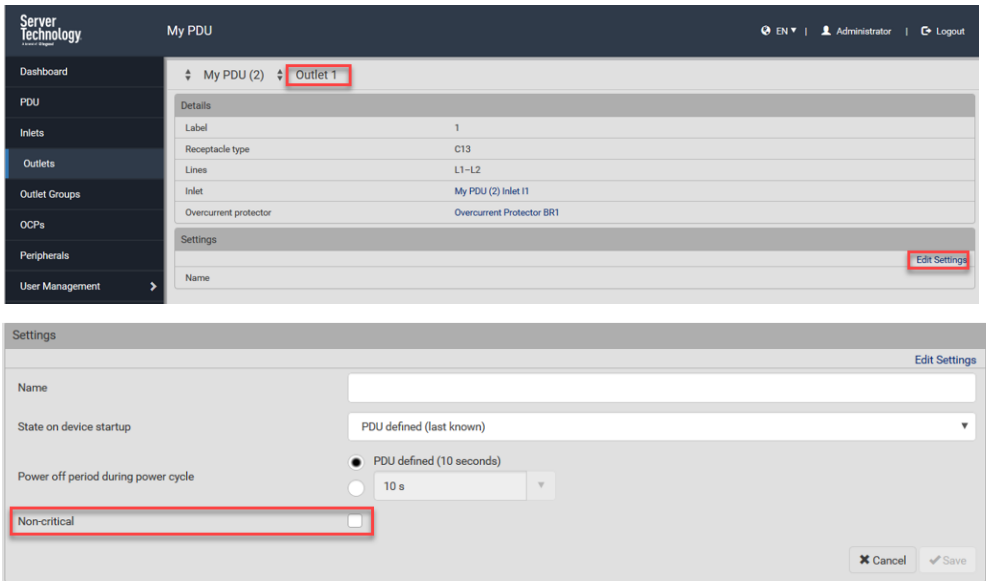
- When the Non-Critical checkbox **is checked**, the selected non-critical outlet(s) are **powered off** when Load Shedding is activated.

- When the Non-Critical checkbox **is not checked**, the selected critical outlet(s) are **not powered off** when Load Shedding is activated



Notes:

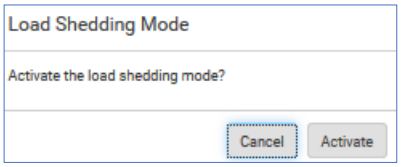
- By default, all outlets are considered critical, and you must select one or multiple outlets and then check the Non-Critical checkbox to make the outlet(s) non-critical to be powered off when Load Shedding is activated.
- When Load Shedding is activated, all non-critical outlets are turned off and critical outlets stay on, if those outlets were on before Load Shedding was activated.
- You can also access the Non-Critical checkbox from the Outlets page (for an individual outlet) on the Edit Settings link, as follows:



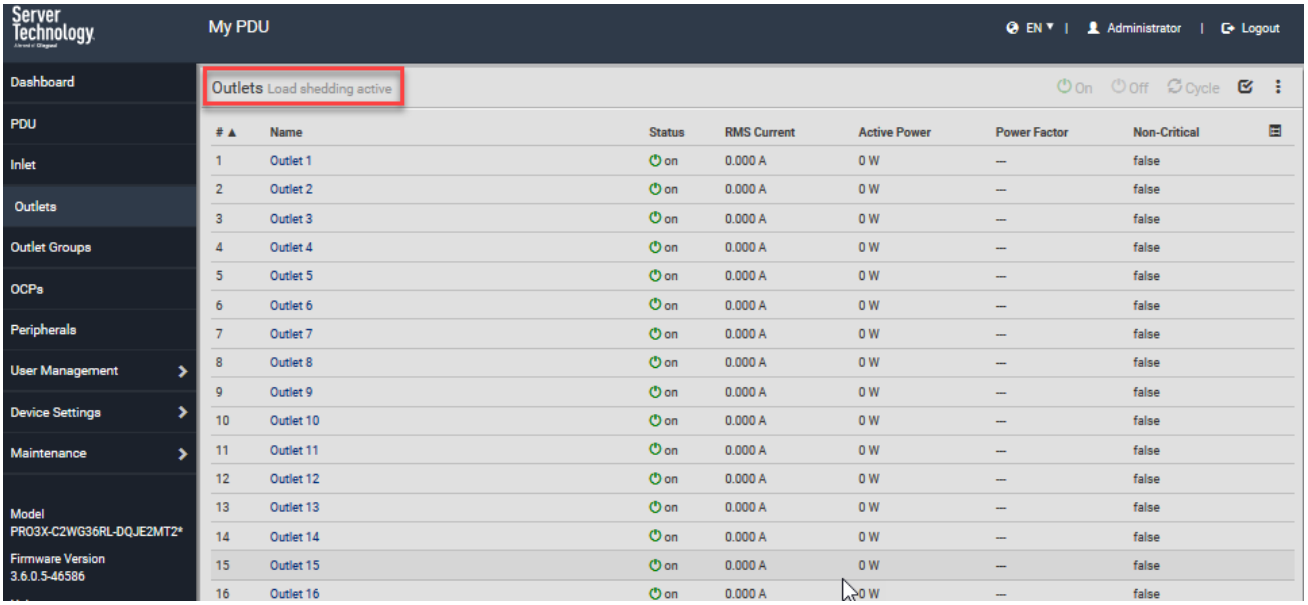
Activate/Deactive Load Shedding

To activate load shedding:

1. From the Outlets page, select the Activate Load Shedding option.
2. Confirm or cancel the activation:

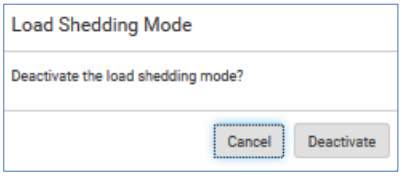


3. The Outlets page displays “Load shedding active”

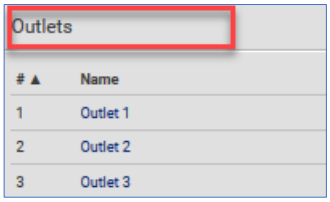


To deactivate load shedding:

1. From the Outlets page, select the Deactivate Load Shedding option.
2. Confirm or cancel the deactivation:



3. The Outlets page displays with a blank heading to indicate Load Shedding is deactivated.



Outlet Groups

An outlet group is a named collection of selected outlets in a PDU. When user-defined, an outlet group can contain outlets from different PDUs, including both master and link units.

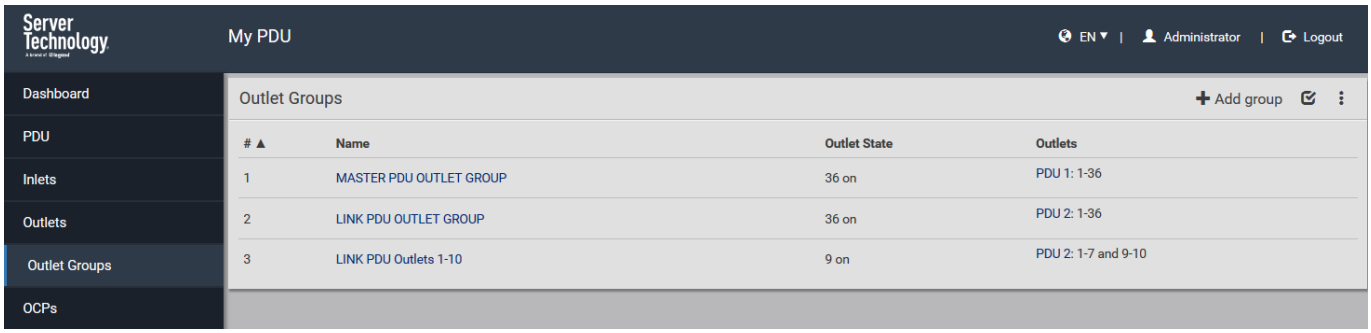
Outlet groups support fast and efficient outlet control actions (On, Off, Power Cycle) across multiple PDUs, and with PDU Linking, member outlets for the master and its link units can be collected in the same outlet group.

Outlet groups are managed by the master unit, and multiple outlet groups can be controlled simultaneously. Summary and power energy readings are available per outlet group.

The Outlet Groups page displays current user-defined outlet groups along with name, outlet state, active power reading, and the page also shows the outlet labels that were selected for the group. In the Outlets column in this example you see that outlets from both master and link units display together within a named group. This is an example of outlet “pairwise”, a function described in more detail later in this next section. **Note:** Outlet groups can contain multiple pairs of outlets; the next screen example shows only two outlet pairs in the sample groups.

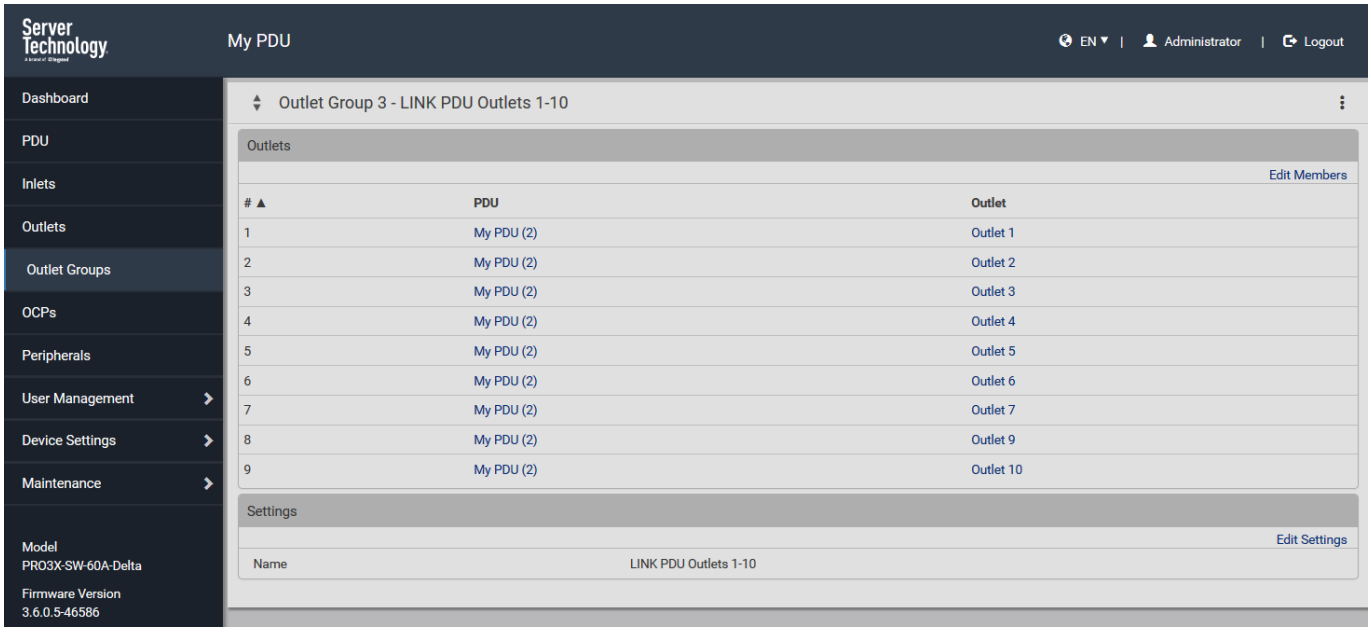
Click the control arrow

to toggle the outlet group list in ascending or descending order by group number.

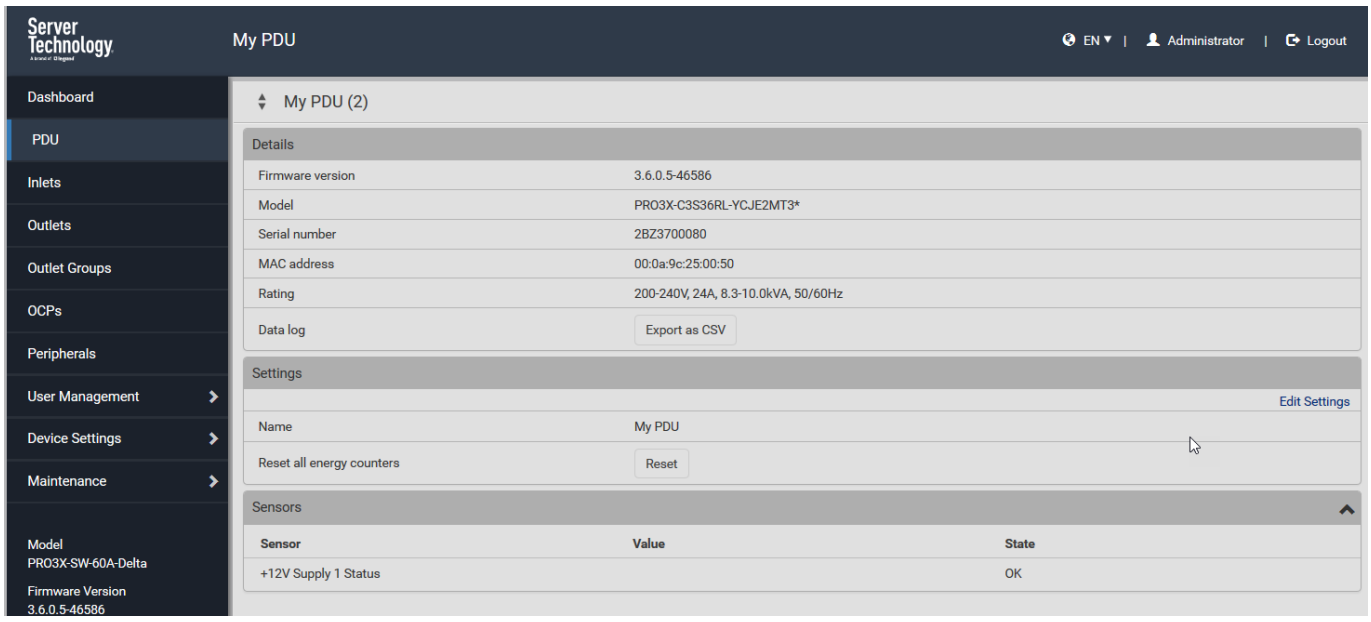


Viewing Outlet Group Details

Click an outlet group name in the list to display details for the outlet group.

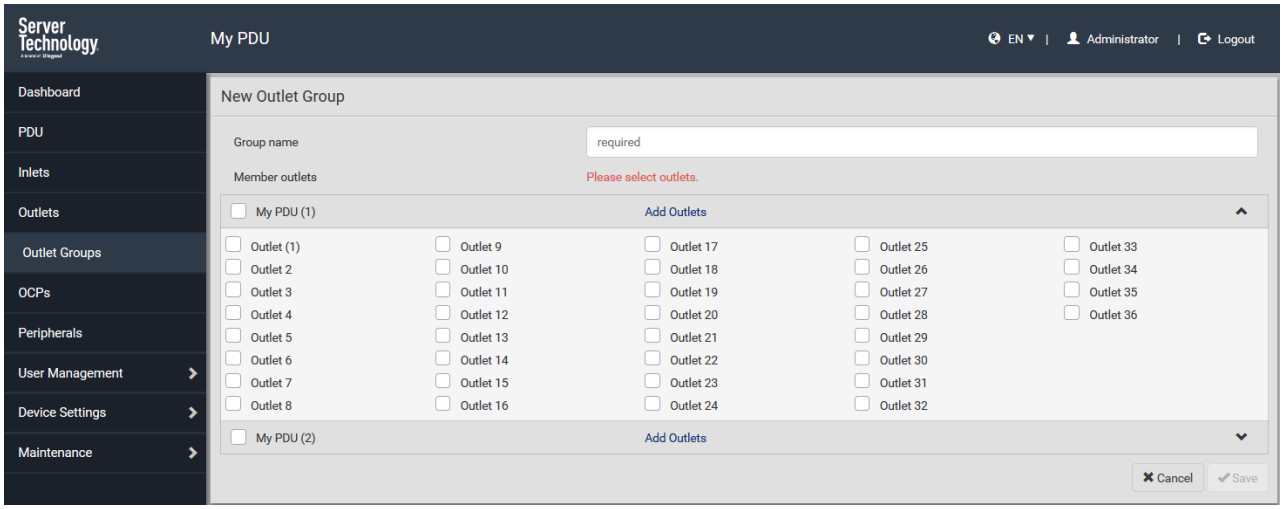


The Details page shows the identification details of the outlet, settings, and sensors. From the Details page, click Edit Settings link.



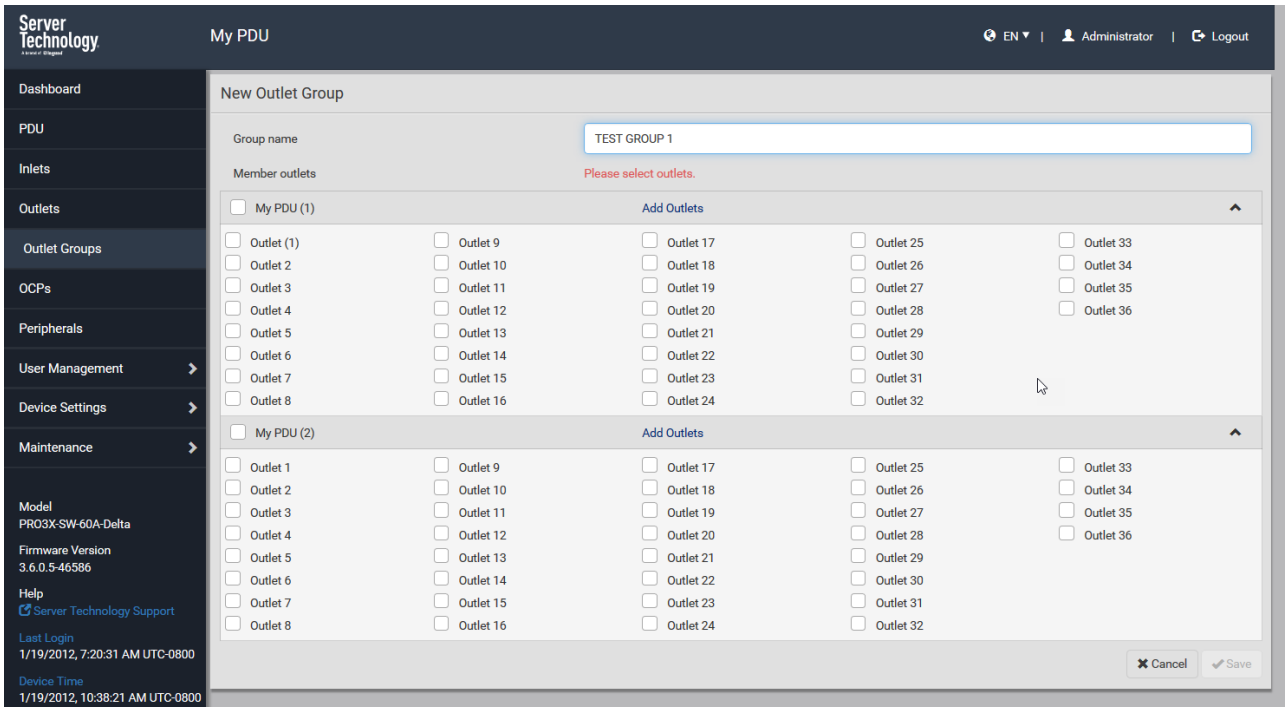
To add an outlet group:

1. On the Outlet Groups page, click + Add group. The New Outlet Group page displays, defaulting to the outlets in the master unit.



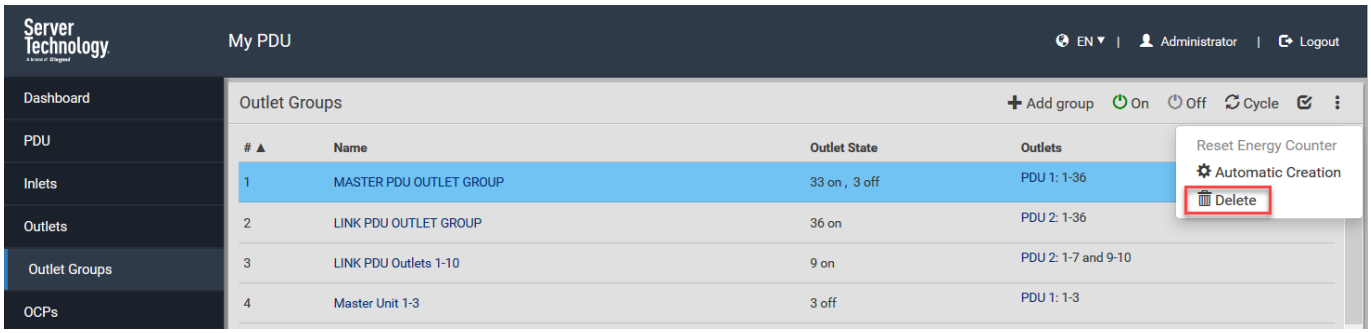
2. Type a name for the new outlet group.
3. Select individual member outlets for the master as shown in the default page, or to select all outlets for the master, select My PDU (1).
4. To select individual member outlets for the link unit My PDU (2), click Add Outlets. To select all outlets for the link unit, select My PDU (2). **Note:** Link units have to be selected by name to display their outlets.
5. Click **Save**.

The following example shows the outlet group named “TEST 1” with all outlet members selected for the master unit and outlet members 1-6 selected for the link unit.



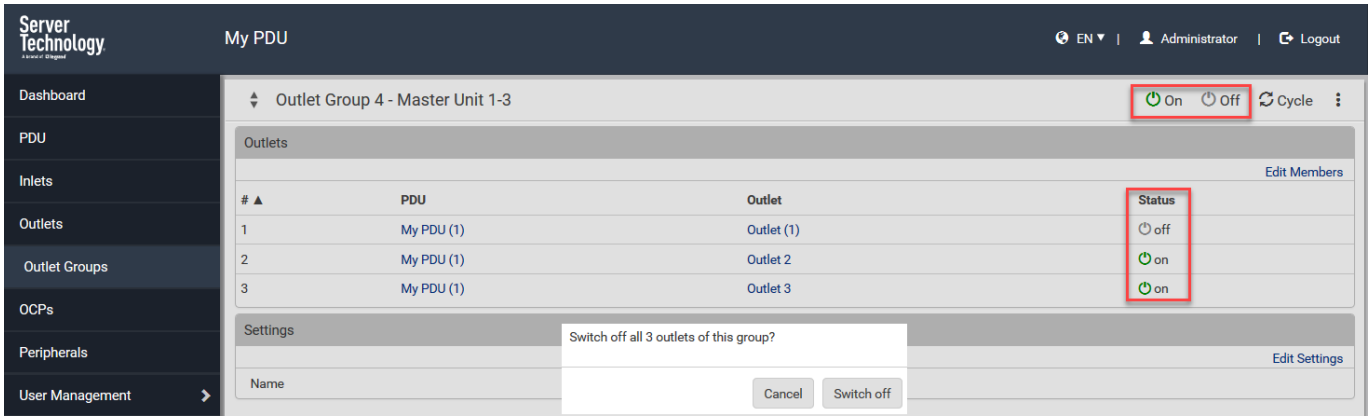
Deleting an outlet group

1. From the Outlet Groups page, select the outlet group to delete.
2. From the drop-down menu ⋮ select Delete. The outlet group is removed from the Outlets Group page.



Controlling outlets in an outlet group

1. From the Outlet Groups page, select an outlet group by name.
2. Click the desired control: On, Off, or Cycle. This example shows three outlets, two in status On and one in status Off. When Off is clicked, a prompt appears to confirm applying the action to all outlets in the group.
3. Click the Switch Off button.



4. In this example, the status of the outlets in the outlet group appears on the Outlets Group page as “3 off”.

About pairwise outlet groups

The PDU Linking feature offers the “pairwise” functionality for outlet grouping. Pairwise lets you create auto-named pairs of outlet groups than span multiple PDUs (master and link units) using the same outlet label. Pairwise simplifies powering up or down a server by automatically creating multiple outlet groups, each containing one pair of outlets between PDUs that can be controlled as a pair-related outlet group.

Example: Chain with master and a single link unit

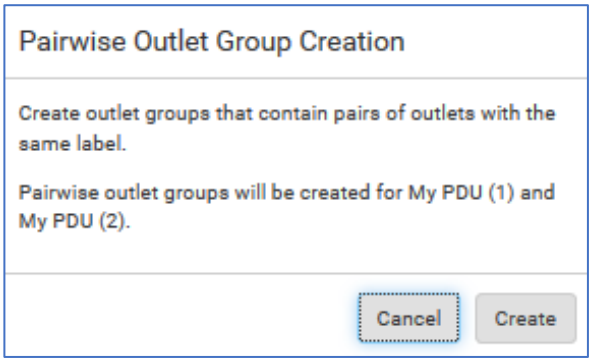
PDU 1 (Master Unit)	Server Load	PDU 2 (Link Unit)
Outlet 1	Server 1	Outlet 1
Outlet 2	Server 2	Outlet 2
Outlet 3	Server 3	Outlet 3
…	…	…
Outlet 20	Server 20	Outlet 20

Using the above example, to power up or down a server, you would typically switch one outlet of PDU 1 and one outlet of PDU 2. With pairwise, you can auto-create an outlet group named “Outlet pair 3”, and the new group will automatically contain Outlet 3 from PDU 1 (master) and Outlet 3 from PDU 2 (link). Powering up or down the server only requires switching the “Outlet pair 3” outlet group, allowing for improved accuracy and speed over outlet control.

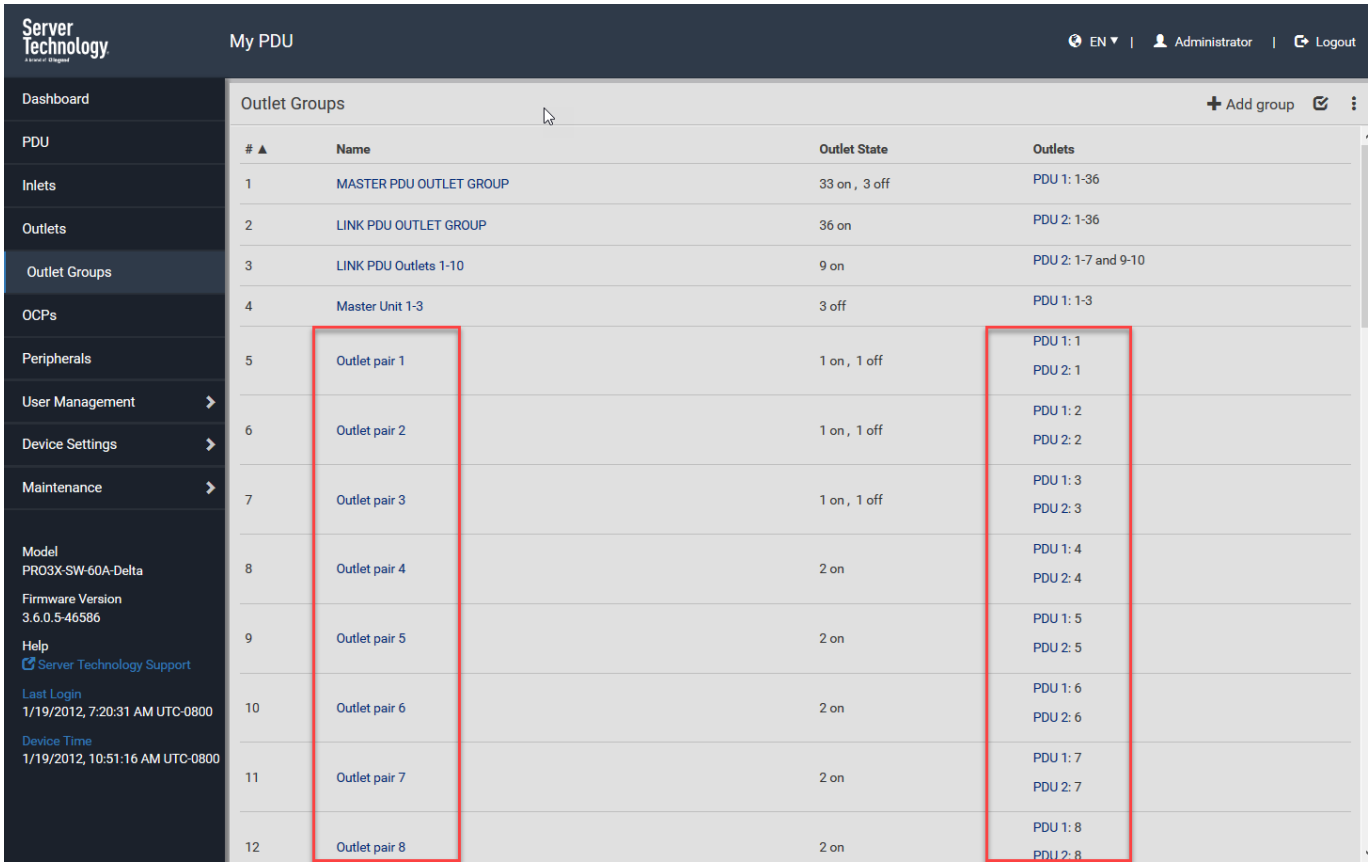
To create an auto-pairwise outlet group:

1. From the Outlet Groups page, from the drop-down menu ⋮ select Automatic Creation.

2. Confirm the pairwise creation.

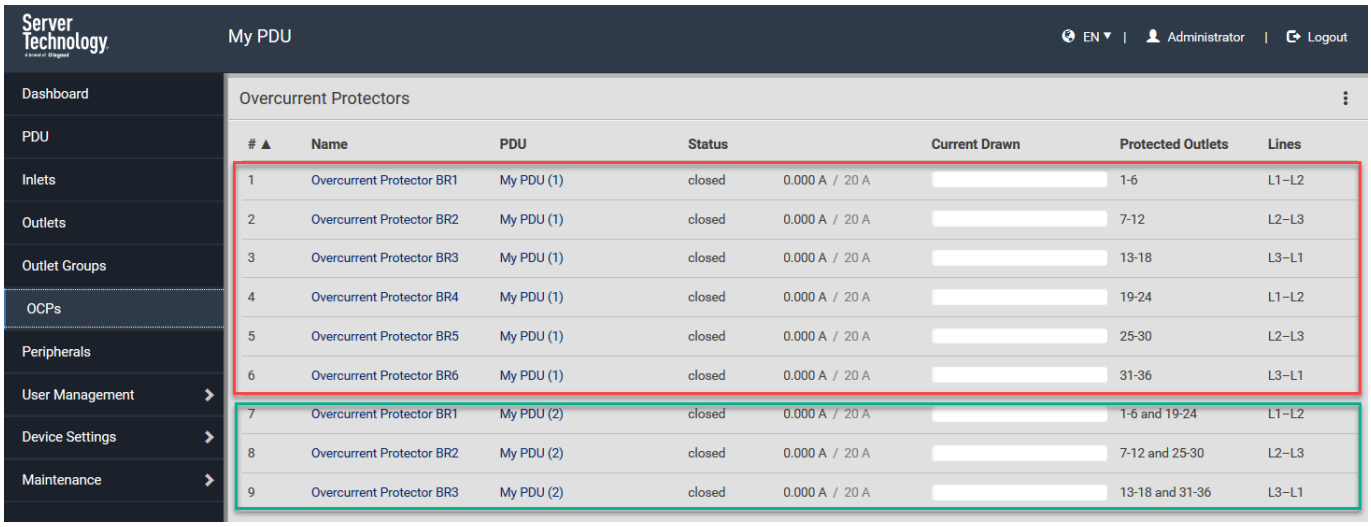


3. Pairwise outlet groups are created and named automatically for all outlets on the master and link unit, such as “Outlet pair 1”, “Outlet pair 2”, “Outlet pair 3”, etc.



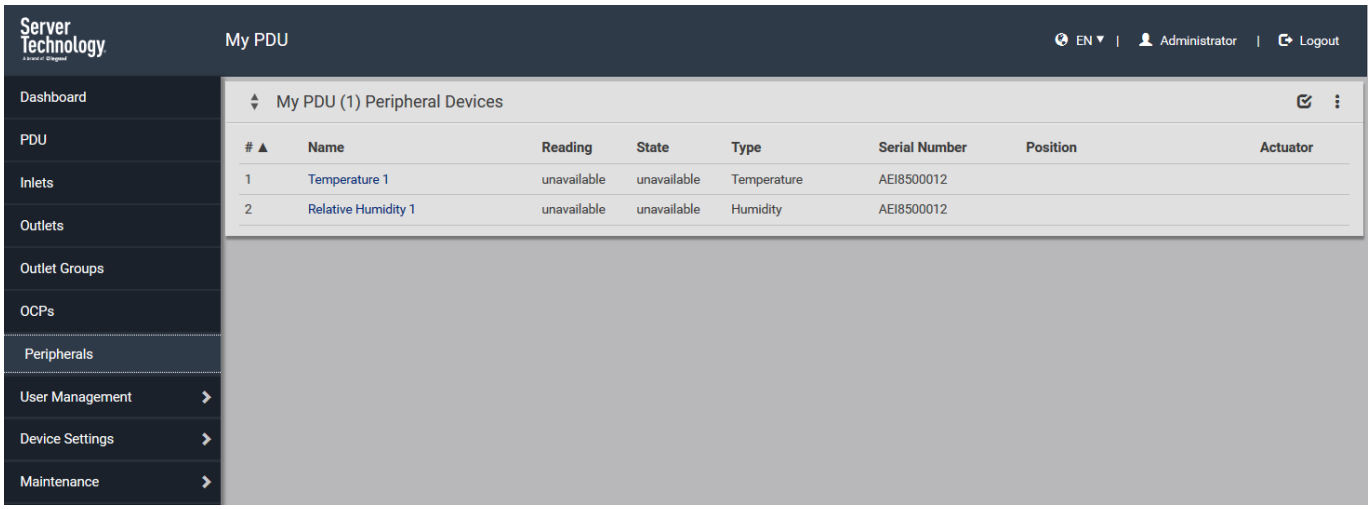
OCPs Page

Overcurrent protectors from both master and link PDUs are displayed together on the same OCPs page.



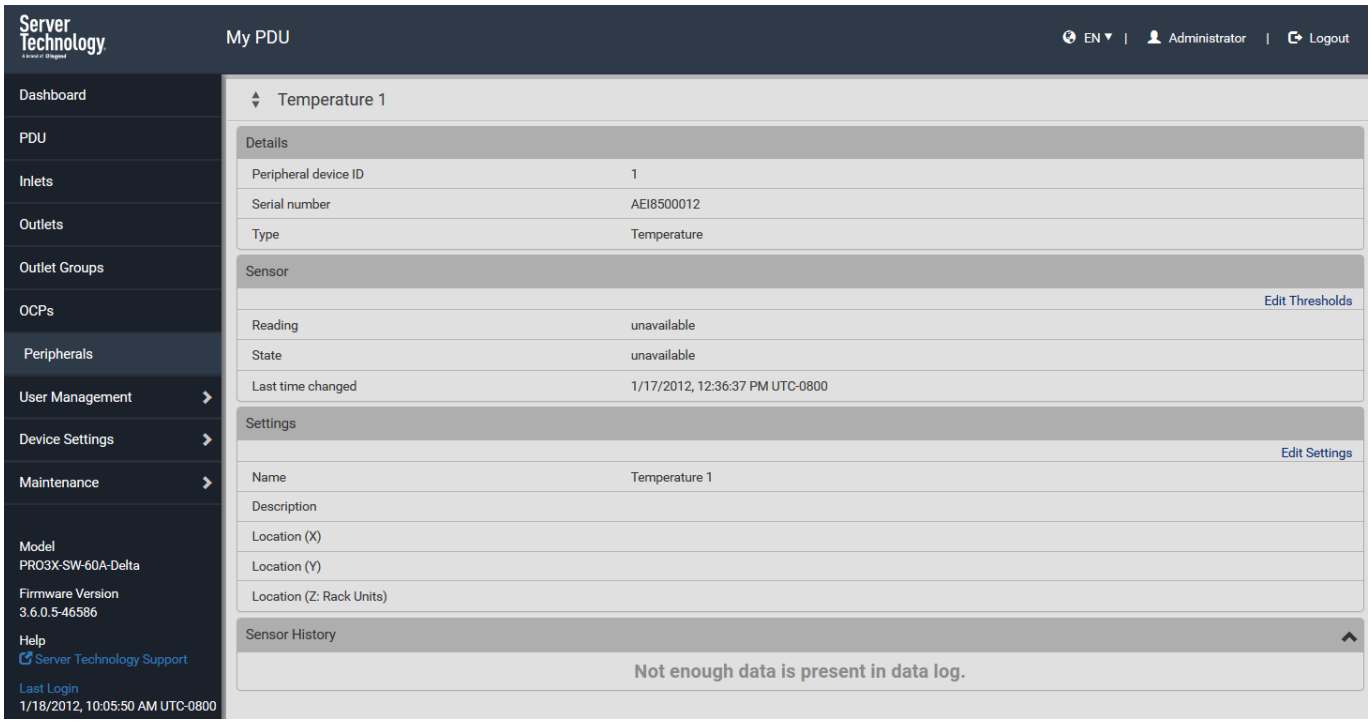
Peripherals Page

The Peripherals Page shows peripheral devices connected to the master or link unit.



Click a peripheral device name for operational details, in this example “Temperature 1”. If sensors are present on any of the devices, sensor data for both master and link units will also appear on the page.

Click the Edit links to configure parameters for Sensors and Settings.



Displays for Master and Link Units

The following displays are samples of the menu options you may see on your PRO3X unit for the PDU Linking feature. Each unit in a PDU Linking chain displays its own PDU data (inlets, outlets, sensors, alerts, etc.)

Hardware Display Examples:

Master unit:

From the following example of the master unit display, navigate the options for displaying Link PDU identification and status, and to confirm the master unit that is controlling the link unit in the chain.

- Can show alarms, which may be triggered by link units.
- PDU information shows a list of link units with host name/IP address, model, device name, serial number, firmware version, and communication status.

Note: These samples are generic and may not look exactly like the menu options and PRO3X product SKUs displayed on your PDU.

Link units:

- No display of alarms (no event engine on link units)
- PDU information shows the master IP address

Using the Command Line Interface (CLI)

For each PDU in a chain, you can list the PDUs, switch a PDU, add a new link PDU, and release a link PDU. You can then use all regular PDU-related commands as usual to access and control individual units, as with any standalone PDU.

About PDU Linking CLI Commands:

- The CLI is disabled on link units. Access to the link unit via the CLI is available only through the master CLI.
- If any link units are configured, the CLI prompt includes the currently selected PDU and Link ID, such as My Pdu (1) or My Pdu (2).
- Some commands are not available for link units:
    - Authentication settings
    - EnergyWise settings
    - Security settings (login, role-based access control, user blocking, and strong passwords.)
    - Server monitor
    - User management

PDU List

The PDU List command displays the following information for each unit:

- Link ID
- Communication status (for link unit only)
- Device name
- Model name
- Serial number
- Firmware version

```
# Pdu list
```

Switch PDU

The PDU Switch command lets you switch between the master and link units. The Link ID must be PDU 1 (master) or PDUs 2-8 (link units).

```
# pdu[id]
```

Add a New Link PDU

The PDU Add command allows you to add a link unit to a master unit. The command is only available when PDU 1 (master) is selected. The command can be used to re-establish a connection to an existing link unit if the Link ID and host match exactly. The command requires admin privileges and prompts for the user's password.

```
# pdu link [id][host][login]
```

Parameters:

- id: New link ID (PDUs 2-8)
- host: Host name or IP address
- login: Name of user with admin privileges

Release a Link PDU

The PDU Release command lets you release (separate) a link unit from a chain until the unit becomes standalone. The master unit does not have access to a released link unit. The command is only available when PDU 1 (master) is selected. The command requires admin privileges, and prompts for confirmation unless the "/y" is specified.

```
# pdu release [id]{/y}
```

Parameters:

- id: Link ID of the unit to be released (PDUs 2-8).

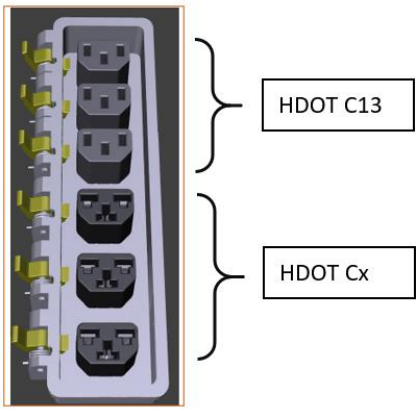
Chapter 6: Meet the HDOT Cx Outlet

With Server Technology's own leading-edge universal outlet, the **Cx**, the **PRO3X** rack PDU is a dramatic innovation in outlet technology. The PRO3X is a single PDU that offers limitless possibilities in providing power and flexibility to alternating-phase and High Density Outlet Technology (HDOT).

Key Features of the HDOT Cx Outlet:

- The C19 outlets are replaced with the universal Cx outlet that accepts either a C14 or C20 connector, automatically increasing the PDU's outlet count.
- Future-proofs your datacenter with fast and easy equipment cord swap-outs while the HDOT Cx stays in place for the lifetime of the PDU. The Cx outlet also eliminates the need to keep several types of cables in inventory for load-balancing.
- Ultimate flexibility for ever-changing rack needs during new hardware installation, as well as limitless possibilities for the power and growth demands of hyperdensity and hyperscale in your datacenter.

PRO3X PDU with Cx Outlets



Side-by-side comparison of the PRO3X HDOT C13 outlet and the HDOT Cx universal outlet

A Closer Look at the Universal Cx Outlet

On the PRO3X PDU, the common C13 and C19 outlets have been combined into Server Technology's new Cx outlet design, a fully-rated hybrid C13/C19 outlet that accepts either a C14 or C20 plug.

Universal Design of the CX Outlet

The unique Cx outlet is the latest innovation in outlet technology that provides ultimate flexibility for the PDU and its outlet count, ensuring that PDUs do not run out of outlets. The new technology of the Cx outlet is designed to meet data center requirements for outlet power today and in the future.

Notes:

- The Cx outlet is not an IEC connector.
- When plugging in a C14 or C20 connector into a Cx outlet, it is recommended to apply moderate force to ensure best cable retention.
- Not every outlet on the PRO3X PDU is a Cx outlet. The PRO3X has 36-fixed outlets, 18 C13 and 18 HDOT Cx, spread across the length of the PDU for easy access.
- All PRO3X outlets (C13 and Cx) are designed with the RAMLock retention mechanism, explained in the next chapter of this Features guide.

HDOT Gets Better with Cx

Server Technology added the innovate and flexible design of the Cx outlet to gives the PRO3X higher performance by allowing you to plug in C14 and C20 cables into a single Cx outlet with no other parts needed, and no need to swap-out the PDU from the rack during equipment changes.

The increased outlet count provided by the universal Cx outlet allows the PRO3X PDU to have high-density benefits to continue uninterrupted because the PDU remains in the rack for its lifetime while you swap-out other data center equipment around it.

The Cx works as two outlets in one: a C13 and a C19 combined into one Cx outlet, allowing many different outlet swap-out configurations on demand. The universal design of the CX outlet results in a fast, easy, and flexible outlet arrangement on the same PDU exactly where and when outlets are needed.High-density solutions for power density, capacity planning, and uptime are enhanced by the ultimate flexibility of the Cx outlet.

Appendix A: Regulatory Compliance

Product Safety

Units have been safety tested and certified to the following standards:

- USA/Canada UL 60950-1:2007 R10.14 and CAN/CSA 22.2 No. 60950-1-07 +A1+A2
- European Union EN 60950-1:2006 + A11 +A1 + A12 + A2

This product is also designed for Norwegian IT power system with phase-to phase voltage 230V.

Notifications

USA Notification

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

Canadian Notification

This Class A digital apparatus complies meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigencies du Règlement sur le matériel brouilleur du Canada.

European Union Notification

WARNING: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Products with CE Marking comply with the EMC Directive (2014/30/EU), Low Voltage Directive (2014/35/EU) and RoHS 2 Directive (2011/65/EU) issued by the Commission of the European Community.

Compliance with the following harmonized standards demonstrate conformity with the EMC and Low Voltage Directives.

- EN 55032
- EN 55024
- EN 60950-1

Japanese Notification

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。
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Chinese Notification

关于符合中国《电子信息产品污染控制管理办法》的声明

产品中有毒有害物质的名称及含量

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substance)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
机箱子组件 (Chassis Subassembly)	O	O	O	O	O	O
印刷板组件 (PCAs)	X	O	O	O	O	O

O　表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。
Indicates that this hazardous substance contained in all homogeneous materials of this part is below the limit requirement in SJ/T 11363-2006.

X　表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准 规定的限量要求。
Indicates that this hazardous substance contained in at least one of the homogeneous materials of this part is above the limit requirement in SJ/T 11363-2006.

Product Recycling

Recycling

Server Technology Inc. encourages the recycling of its products. Disposal facilities, environmental conditions and regulations vary across local, state and country jurisdictions, so Server Technology encourages consultation with qualified professional and applicable regulations and authorities within your region to ensure proper disposal.

Waste Electrical and Electronic Equipment (WEEE)

In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

Appendix B: Product Support

Warranty

For Server Technology warranty information, visit our website www.servertech.com

Contact Technical Support

Experience Server Technology's FREE Technical Support

Server Technology understands that there are often questions when installing and/or using a new product. Free Technical Support is provided from 8 a.m. to 5 p.m. Pacific Time, Monday through Friday.

Server Technology, Inc. (a brand of Legrand)

1040 Sandhill Road	Tel:	1-800-835-1515	Web:	www.servertech.com
Reno, Nevada 89521 USA	Fax:	775-284-2065	Email:	support@servertech.com

Return Merchandise Authorization (RMA)

If you have a product that is not functioning properly and needs technical assistance or repair, see the Server Technology **Return Merchandise Authorization** process at: www.servertech.com

About Server Technology®

Server Technology, a brand of Legrand, is leading the engineering and manufacturing of customer-driven, innovative and exceptionally reliable power, access and control solutions for monitoring and managing critical IT assets for continual availability.

Server Technology's power strategy experts are trusted to provide Rack PDU solutions for data centers worldwide ranging from small technology startups to Fortune 100 powerhouses. Because power is all we do, Server Technology can be found in the best cloud and colocation providers, forward thinking labs, and telecommunications operations.

Server Technology customers consistently rank us as providing the highest quality PDUs, the best customer support, and most valuable innovation. We have over 12,000 PDU configurations to fit every data center need and most of our PDUs are shipped within 10 days.

Rack PDU Buying Guide
Find the best PDU for your data center
servertech.com/rack-pdu-buying-guide

Rack PDU Selector
Over 2000 standard configurations
servertech.com/product-selector

Build Your Own PDU
Build an HDOT or HDOT Cx PDU in 4 easy steps
byopdu.servertech.com

Speak to a Power Expert
Get free technical support
servertech.com/support

How to Buy
Tools to simplify the PDU buying process
servertech.com/how-to-buy

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