Simply Better Connections

PE7216 / PE7324
PE8216 / PE8324

16 / 24-Outlet Metered eco PDU
User Manual

Compliance Statements

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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 his own expense.

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Warning

Operation of this equipment in a residential environment could cause radio interference.

Achtung

Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.

Note: The KJ and J model series do not meet or qualify for FCC or CE certification, as they are produced for countries outside the FCC's jurisdiction**.**

KCC Statement

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)
이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며 , 가정 외의 지역에서 사용하는 것을 목적으로 합니다 .

Industry Canada Statement
This Class A digital apparatus complies with Canadian ICES-003.

CAN ICES-003 (A) / NMB-003 (A)

VCCI Statement

この装置は、クラスA機器です。この装置を住宅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。 VCCI－A

RoHS
This product is RoHS compliant.

PE Device Safety Notice

- Set the maximum permissible breaker protection in the building circuitry to the current rating specified on the rating plate. Observe all national regulations and safety codes as well as deviations for breakers.
- Only connect the PE Device to a grounded power outlet or a grounded system!
- Make sure that the total current input of the connected systems does not exceed the current rating specified on the rating plate of the PE

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400--810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Package Contents

Check to make sure that all components are in working order. If you encounter any problem, please contact your dealer.

The eco PDU PE Series standard package consists of:

1 PE7216 / PE7324 / PE8216 / PE8324 Power Distribution Unit

1 power cord (PE7216 / PE8216 only)

1 mounting kit

1 user instructions

Contents

***Chapter 9.*PDU**

***Chapter 10.*Appendix**

About This Manual

This manual is provided to help you get the most out of your eco PDU. It covers all aspects of the power distribution unit, including installation, configuration, and operation.
The eco PDU models covered in this manual include:

Model	
PE7216	20A/16A 16-Outlet Outlet-Metered eco PDU
PE7324	30A/32A 24-Outlet Outlet-Metered eco PDU
PE8216	20A/16A 16-Outlet Outlet-Metered & Switched eco PDU
PE8324	30A/32A 24-Outlet Outlet-Metered & Switched eco PDU

An overview of the information found in the manual is provided below.

Chapter 1, *Introduction***,** introduces you to the unit/system. It presents purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, *Hardware Setup***,** provides step-by-step instructions for setting up your installation, and explains some basic operation procedures.

Chapter 3, *Basic Operation and First-Time Setup*, explains the procedures that the administrator employs to set up the eco PDU network environment, and change the default username and password.

Chapter 4, *Logging In*, describes how to log in to the eco PDU with an Internet browser, and explains the layout and components of the user interface.

Chapter 5, *Energy*, describes how to monitor and configure the eco PDU energy settings.

Chapter 6, *User Management*, describes how to configure the eco PDU user management such as username and password.

Chapter 7, *Log*, describes how to read and export log from the eco PDU.

Chapter 8, *Setup*, describes how to configure and manage the eco PDU as a whole.

Chapter 9, *PDU*, describes how to perform a firmware upgrade on the eco PDU, or back up and restore files.

Appendix, at the end of the manual provides technical and troubleshooting information.

Note:

- Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit and/or connected devices.
- The product may have been updated, with features and functions added, improved, or removed since the release of this manual. For an up-to-date user manual, visit https://www.aten.com/global/en.

Conventions

This manual uses the following conventions:

`Monospaced`	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
>	Indicates selecting consecutive options (such as on a menu or dialog box). For example, Start > Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Chapter 1
Introduction

Overview

ATEN PE7216 / PE7324 / PE8216 / PE8324 eco PDUs are intelligent PDUs that contain 16 or 24 AC power outlets, and are available in various IEC or NEMA socket configurations. PE8 series features ATEN's proactive overload protection, which automatically powers off outlets when a current overload occurs.

ATEN eco PDUs provide a secure, centralized, intelligent, power management (power on, off, cycle) for data center IT equipment (servers, storage systems, KVM switches, network devices, serial data devices, etc.), as well as the ability to monitor the center's health environment via sensors[1]. The basic characteristics of each model are shown in the table on page 3.

ATEN eco PDUs offer remote power control combined with real-time power measurement — allowing you to control and monitor the power status of its powered devices via TCP/IP connection, either at the PDU device, bank, or outlet level, depending on the model, from anywhere[2].

The power status of each outlet can be set individually, allowing users to switch each device on/off. The eco PDU also offers comprehensive power analysis reports that can separate departments and/or locations, providing precise measurements of current, voltage, power, and watt-hour in a real-time display.

Installation and operation is fast and easy: simply plug the cables into their appropriate ports and users can operate via its intuitive browser-based configuration and management. Since the eco PDU firmware is upgradeable over the Internet, you can keep your device up to date with the latest functionality improvements, simply by downloading updates from our website as they become available.

ATEN eco PDU supports any 3rd-party v3 SNMP manager software and ATEN eco DC (Energy & DCIM management web GUI). eco DC provides you with an easy method for managing multiple devices, offering an intuitive and user-friendly graphical user interface that allows you to configure PDUs and monitor power status of all equipment connected.

With its advanced security features and ease of operation, the eco PDU is the most convenient, reliable, and cost-effective way to remotely manage

power access for multiple computer/server installation infrastructures and allocate power resources in the most efficient way.

Note: 1. Sensors are optional accessories. A sensor-enabled installation is required to generate a more complete energy-efficient data and chart. Higher sensor installation density is helpful to generate more accurate data. See *Optional Accessories*, page 8, for further information.

2. eco PDUs are primarily designed for access via an intranet; extra network security protection is suggested for Internet access usage.

3. Not all models support all features. See *Comparison Chart*, page 3, and *Specifications*, page 94, for full details.

Comparison Chart

Model	Inlet / Cord	Outlets		Metering Level	Outlet Switching
PE7216B	NEMA 6-20P	16	14 x IEC 60320 C13 + 2 x IEC 60320 C19	PDU / 1 x Bank / Outlet	No
PE8216B					Yes 16/16
PE7216G	IEC 60320 C20				No
PE8216G					Yes 16/16
PE7324B / J	NEMA L6-30P	24	21 x IEC 60320 C13 + 3 x IEC 60320 C19	PDU / 2 x Bank / Outlet	No
PE8324B / J					Yes 24/24
PE7324G	IEC 60309 32A				No
PE8324G					Yes 24/24
PE8324G2			6 x IEC 60320 C13 + 18 x IEC 60320 C19		
PE8324G3			18 x IEC 60320 C13 + 6 x IEC 60320 C19		

Note: For the complete specifications of individual models, including bank-by-bank outlet details, please reference *Specifications*, page 94.

Features

Power Distribution

- Space saving 0U rack mount design with rear mounting
- Various IEC outlet models
- 2 digit 7-segment front panel LED showing PDU / Phase / Bank / Outlet ID
- 3 digit 7-segment front panel LED showing Current / Voltage / Power Dissipation, IP address, and readings from up to 4 environment sensors
- Safe shutdown support
- Separate power for the unit's own power and its power outlets — keeping the user interface accessible even when an overload condition trips the devices' circuit breaker
- Proactive overload protection (POP) (PE8216/PE8324 only) — automatically powering off outlets when a current overload occurs (see *Proactive Overload Protection (POP)*, page 6)

Remote Access

- Remote power control via TCP/IP and a built-in 10/100 Ethernet port
- Network Protocols: TCP/IP, UDP, HTTP, HTTPS, SSL, SMTP, ARP, DHCP, NTP, DNS, Auto Sense, Telnet, Ping, SNMP v1, v2 & v3
- Remote users can monitor outlet status via web pages on web browsers
- eco PDU Energy & DCIM Management Web GUI — eco DC
- Supports SNMP Manager v3

Operation

- Local and remote power outlet control (on, off, power cycle) by individual outlets (PE8216/PE8324 only)
- Supports multiple power control methods — Wake on LAN, System after AC Back, Kill the Power
- Power-on sequencing — setting the power on sequence and delaying time for each outlet to allow equipment to be powered on in the defined order
- Easy setup and operation via a browser-based user interface
- Multiple browsers support (IE, Firefox, Chrome, Safari)
- RTC support to keep the timer running during times without power

- Up to 8 user accounts and 1 administrator account

Management

- Power metering and monitoring at the PDU / Bank / Outlet level
- LED indicators for current, voltage, power dissipation at the PDU / Bank / Outlet levels
- Real-time aggregate current, voltage, power, and power dissipation displayed in a browser-based UI for monitoring at the PDU, bank and outlet level (PE7216/PE8216 offers 1 bank metering; PE7324/PE8324 offers 2 bank metering)
- Alert notification for selected events (on, off, recycle, failure, exceeding threshold settings, etc.), via blinking LEDs (locally), SMTP, and SNMP trap notification
- Supports Management Information Base (MIB) files for SNMP
- Environment monitoring — supports external temperature / humidity / differential pressure sensors for rack environment monitoring
- Door Sensor support — allowing monitoring of rack mount enclosure door access and notifying users when a door is opened.
- Current and voltage threshold setting
- Naming support for outlets
- User outlet access assignment on an outlet-by-outlet basis
- Event logging and Syslog support
- Upgradeable firmware
- Multiple languages support — English, Traditional Chinese, Simplified Chinese, Japanese, German, Italian, Spanish, French, Russian, Korean, Portuguese

Security

- Two-level password security
- Strong security features include strong password protection and advanced encryption technologies — TLS 1.0
- Remote authentication support: RADIUS
- IP / MAC filter

eco DC DCIM Management Web GUI*

- Automatic discovery of all PE devices within the LAN
- Remote real-time power measurement and monitoring
- Real-time environment sensor monitoring
- Plotting/monitoring of all PE devices
- Exceed threshold alert through SMTP and System log
- Power Analysis report

Note: eco DC is designed to work with ATEN PDUs and is bundled with all PE series packages.

Features available only on firmware-upgraded models with -ATB part number

- Supports SMPTS, IPv6, Modbus (Over TCP/IP), Auto Ping, TLS1.2, SSH
- Supports IEEE 802.1X
- Authentication: LDAP, TACACS+
- UI – heartbeat,schedule control, mail control, and setting rule

Proactive Overload Protection (POP)

The PE8216 and PE8324 models feature ATEN's exclusive Proactive Overload Protection (POP) technology. Effective on all non-critical outlets, this added safety feature automatically powers off outlets when a current overload occurs.

POP mode is engaged, powering off the outlets, when the current exceeds the maximum threshold value set. The LED display shows POP and a beeper sounds. Press any button for two seconds to clear POP mode and power the outlets back on.

Requirements

- Browsers accessing the eco PDU must support TLS 1.0.
- For cold booting of attached computers, the computer's BIOS must support *Wake on LAN* or *System after AC Back*.
- For Safe Shutdown:
  - The computer must be running Windows (2000 or above) or Linux.
  - The *Safe Shutdown* program — PMonitor — must be installed and running on the computer (available by download from our website).

Note: Safe shutdown program PMonitor can be downloaded from the *Support and Download* section of the product web page, as shown below

Software & Drivers

OS	Description	Ver.	Release Date	File Name
Other				
	MIB File	v1.1.115	2015-05-05	PE_MIB_File_v1.1.115.zip
	PE MIB File	v1.1.112	2014-06-19	PE8_MIB_File_v1.1.112.tar
	PE MIB File	v1.1.109	2013-09-06	PE8_MIB_File_v1.1.109.tar
	IP Installer	v1.4.132	2012-02-10	IPInstaller-ALTUSEN_v1.4.132.zip
Linux	PMonitor	v1.1	2012-02-10	PowerMonitor_v1.1.zip
Windows	PMonitor	v1.0.081	2012-02-10	PMonitorSrv_v1.0.081.zip
	PE MIB File	v1.0.063	2012-02-10	PE8_MIB_File_v1.0.063.zip

Optional Accessories

Environment Sensors

For complete energy management of an instrumented data center with the eco PDU and eco DC, you should install 4 sensors for each of the racks in your data center in order to generate a complete energy-efficient data chart. 8/16-port models have 4 sensor ports. Higher sensor installation density is helpful to generate more accurate data.

To get the most complete eco DC data, the recommended 4-sensor setup is shown in the table, below:

Port	Location	Part Number	Sensor
Sensor 1	Intake	EA1140 or EA1240	Temperature or Temperature / Humidity
Sensor 2	Intake		
Sensor 3	Exhaust		
Sensor 4	Exhaust		
	or Floor	EA1340	Differential Pressure

Door Sensor

All models in the PE7xxx/PE8xxx range feature a 4-pin dry contact port for door sensors in monitoring rack mount enclosure door access, and notifying users when a door is opened.

For a list of compatible door sensors, please refer to the *Compatible Accessories* section on the product web page. Please contact your ATEN dealer for inquiry and purchase.

Sensor Management

Sensors can be managed via the eco PDU's built-in graphical user interface (GUI) or with the ATEN eco DC that can be downloaded from the ATEN website.

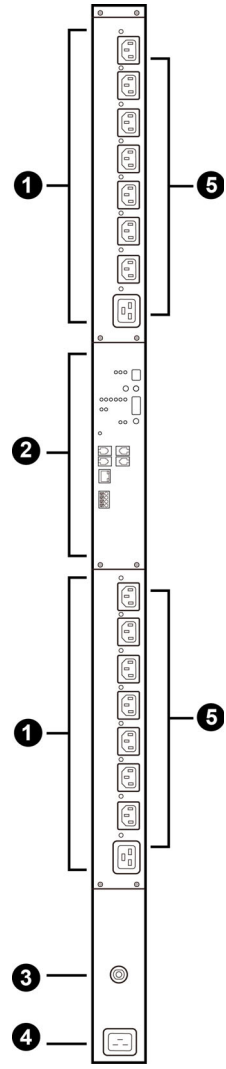
Cable Holders

Cable holders are optional accessories. For added safety, use ATEN Lok-U-Plug cable holders to secure the cables from your attached devices in place on the eco PDU. Only the ATEN Lok-U-Plug cable holders that have been specifically designed to work with the eco PDU can be used. Using any other

kinds of cable securing device could potentially result in irreversible damage or harm to the device or users. For a list of compatible cable holders, please refer to the Compatible Products section on the product web page.

Components

PE7216 / PE8216

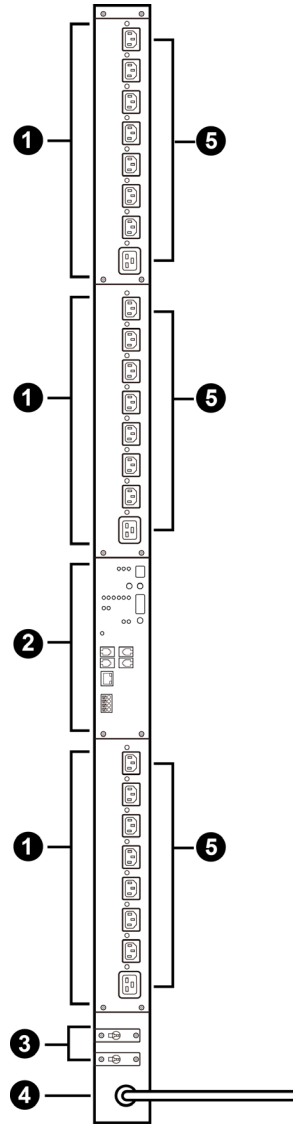


Note: The PE7216 / PE8216 unit components are identical except for the outlet LEDs — the PE7216 has none while the PE8216 has 16, as shown by number 5 above.

No.	Item	Description
1	power outlets*	16 in total (14 x IEC 60320 C13 + 2 x IEC 60320 C19) Bank 1-1: Outlet 1–8: 7 C13; 1 x C19 Bank 1-2: Outlet 9–16: 7 x C13; 1 x C19
2	port and LED panel	The Port and LED panel contains: ◆ Readout Section and LEDs ◆ Environmental Sensor Ports ◆ LAN Port ◆ Door Sensor Port ◆ Reset Switch Full details of this section are provided on page 14.
3	circuit breaker pushbutton	As a safety measure, if there is an overcurrent situation in regards to the device's power, the circuit breakers will trip. Press the button to recover normal operation. **Warning**: See *Resetting the Circuit Breaker*, page 90 for important information about resetting a tripped circuit breaker.
4	power inlet	The power cord that connects the unit to an AC power source plugs into this socket. ◆ B models connect to a NEMA 6-20P source ◆ G models connect to an IEC 60320 C20 source
5	outlet status LEDs	PE8216 (x 16) only. These LEDs indicate outlet status. Lights orange for powered on. Off for powered off.

Note: Holes for ATEN Lok-U-Plug cable holders are located around the outlets. See *Securing the Cables*, page 21, for further information.

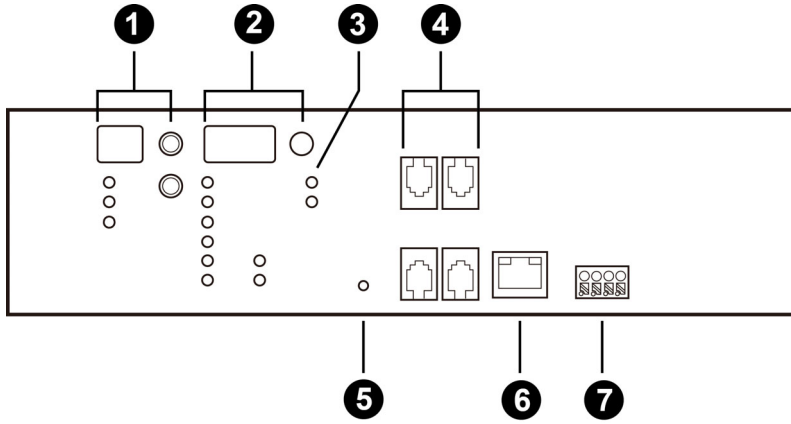
PE7324 / PE8324



Note: The PE7324 / PE8324 unit components are identical except for the outlet LEDs — the PE7324 has none while the PE8324 has 24, as shown by number 5 above.

No.	Item	Description
1	power outlets*	24 in total, see page 3 for details.
2	port and LED panel	The Port and LED panel contains: ◆ Readout Section and LEDs ◆ Sensor Ports ◆ LAN Port ◆ Door Sensor Port ◆ Reset Switch Full details of this section are provided on page 14.
3	circuit breakers	As a safety measure, if there is an overcurrent situation in regards to the device's power, the circuit breakers will trip. Reset the circuit breaker to recover normal operation. **Warning**: See *Resetting the Circuit Breaker*, page 90 for important information about resetting a tripped circuit breaker.
4	power cord	Plug the cord into an AC power source. ◆ B models connect to a NEMA L6-30P source ◆ G models connect to an IEC 60309 32A source
5	outlet status LEDs	PE8324 (x 24) only. These LEDs indicate outlet status. Lights orange for powered on. Off for powered off.

Port and LED Panel (All models)



No.	Item	Description
1	ID section	◆ The ID of the selected PDU / Phase / Bank / Outlet appears in the LED display window. ◆ When PDU/Phase LED is lit, the LED display window displays P1. ◆ When Bank LED is lit, use the Up and Down buttons to move forward or backward through the following sequence: 01 > 02 (Bank 1 > Bank 2) ◆ When the Outlet LED is lit, use the Up and Down buttons to move forward or backward through the outlets: 01 > 02 > 03 > ... 01 (Outlet 1 > Outlet 2 > Outlet 3 > ... Outlet 1)
2	readout section	◆ When PDU / Phase / Bank / Outlet is selected, readouts for its current, voltage, power, and IP address appear in the display window. ◆ Press the button next to the LED display window to cycle the selection between the items; the LEDs next to the items indicate which one is currently displayed. ◆ When a sensor is selected, the display displays temperature / humidity / differential pressure according to the sensor type
3	status LEDs	◆ Power: Lights when the unit is powered on and ready to operate. ◆ Door sensor: Lights red when the door is open. See *Door Sensor*, page 8, for details.

No.	Item	Description
4	sensor ports	External sensors plug into these four RJ-11 ports. See *Environment Sensors*, page 8, and *Securing the Sensors*, page 22, for further information.
5	reset button	This button is recessed and must be pushed with a thin object, such as the end of a paper clip. ◆ Press and release to reboot the device. ◆ Press and hold for more than three seconds to reset the eco PDU back to its factory default settings.
6	LAN port	The cable that connects the unit to the Internet, LAN, or WAN plugs in here.
7	door sensor	This 4-pin dry contact port is for a door sensor — allowing the monitoring of rack mount enclosure door access, and notifying users when a door is opened. See *Door Sensor*, page 8, for details. **Note:** Supports up to two dry contact sensors on the PE8216 and PE8324.

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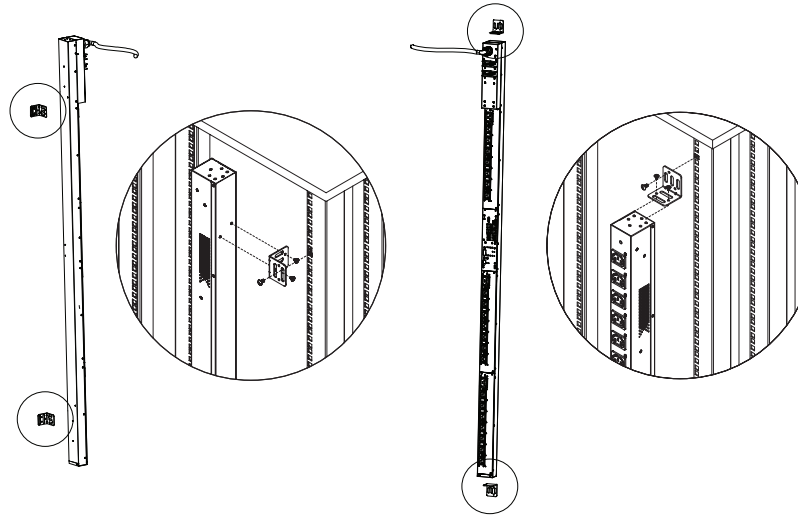
Chapter 2
Hardware Setup

Before You Begin

1. Important safety information regarding the placement of this device is provided on page 87. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting have been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.
3. See *Resetting the Circuit Breaker*, page 90 for important information about resetting a tripped circuit breaker.

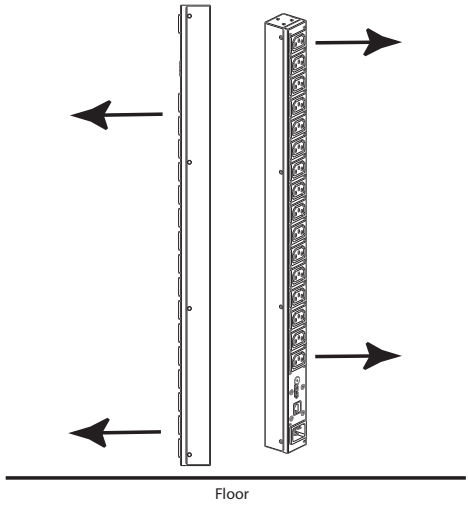
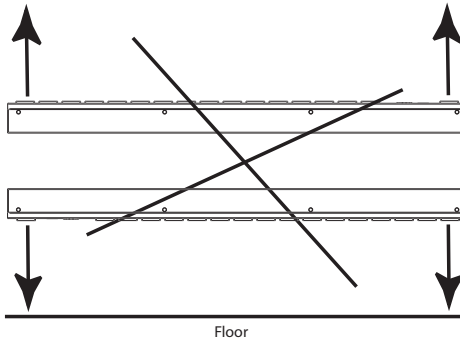
Rack Mount

The eco PDU can be mounted in a 0U configuration on the side of a rack. To mount the device onto a rack, use the mounting brackets provided. The brackets can be attached either near the top and bottom of the back panel, or to the top and bottom ends of the device, as shown in the diagram below:



PDU Placement

For safety reasons, the eco PDU shall NOT be installed with the power sockets facing up or down, and thus should only be installed with the power sockets facing out from a vertical position, as shown below:

	**Right.**
	**Wrong**

Note: The eco PDU models shown in the diagrams are for rack mount reference purposes only.

Installation

To set up your installation, refer to the installation diagram on the next page (the numbers in the diagram correspond to the numbered steps), and do the following:

1. Ensure that the eco PDU unit is properly grounded.

   Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from surges of static or electricity.

2. For each device you want to connect, use its power cable to connect the device's AC socket to any available outlet on the eco PDU. Use ATEN Lok-U-Plug cable holders to secure them.

   Note: See *Securing the Cables*, page 21, for details.

3. Plug the Ethernet cable that connects the eco PDU to the LAN into the eco PDU's LAN port.

4. (Optional) If you are using environmental sensors in your eco PDU installation, connect up to four to the RJ-11 sensor ports on the unit's front panel.

   Note: See *Optional Accessories*, page 8, and the installation diagrams later in this chapter for further information.

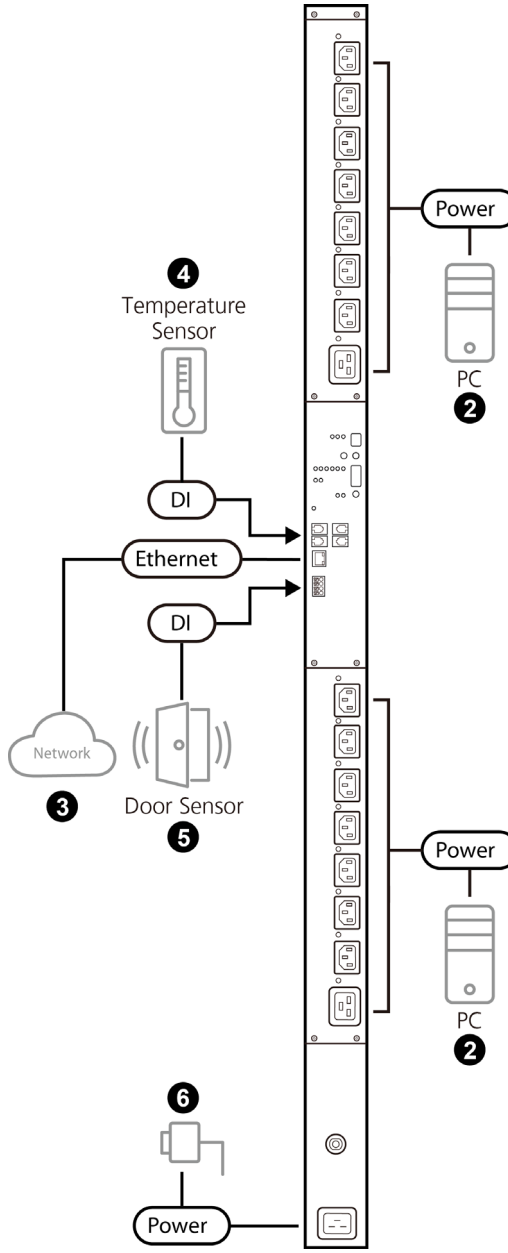
5. (Optional) If you are using a door sensor in your eco PDU installation, connect it to the 4-pin dry sensor port on the unit's front panel.

   Note: See *Door Sensor*, page 8, for further information.

6. Depending on your model, connect the eco PDU's built-in power cord to an AC power source, or use the power cord provided to connect the eco PDU's power socket to an AC power source.

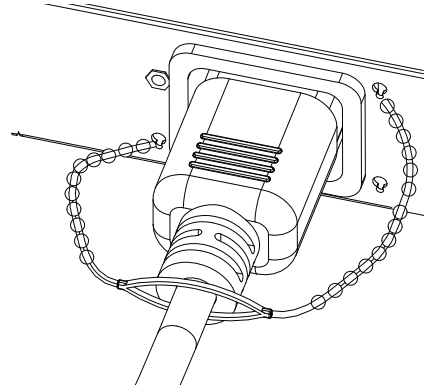
Once you have finished these installation steps, you can turn on the eco PDU and the connected devices.

Installation Diagram



Securing the Cables

For added safety, use ATEN Lok-U-Plug cable holders to secure the cables of your powered devices in place on the eco PDU. Secure the cable holders using the specially designed holes around the individual power outlets, as shown below:

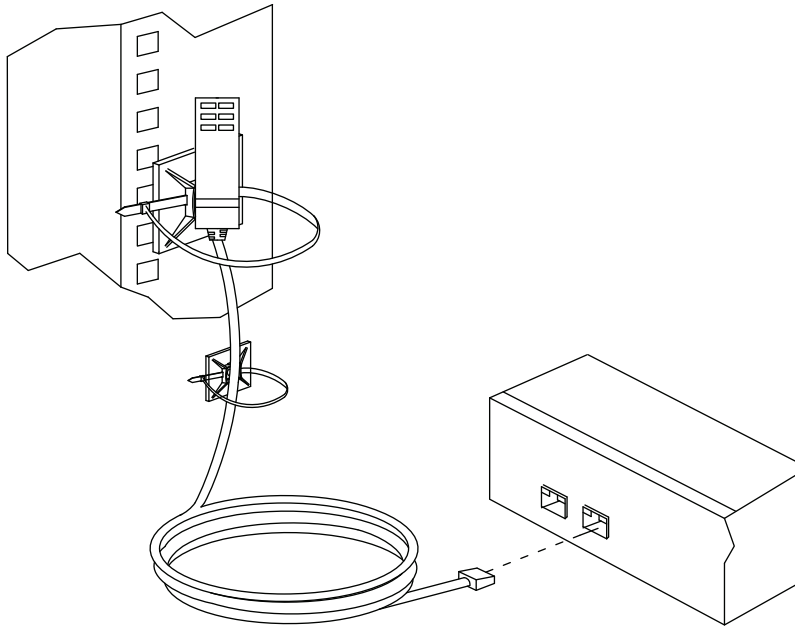


Note: 1. Cable holders are an optional accessory. See *Cable Holders*, page 8.

2. Only the ATEN Lok-U-Plug cable holders that have been specifically designed to work with the eco PDU can be used. Using any other kinds of cable securing device could potentially result in irreversible damage or harm to the device or users.

Securing the Sensors

Connect the sensors to the eco PDU's front panel sensor ports and secure them using sensor mounts, tie wraps, and adhesive cable tie holders. If you use a tie wrap to secure the sensor, tighten the tie wrap over the recessed channel on the sensor, as shown in the following diagram:



Note: 1. The sensors shown in the above diagram are for reference purposes only. The sensors for the eco PDU may look slightly different.

2. Depending on the model and type of sensor, sensor mounts, tie wraps, and adhesive cable tie holders may or may not be provided in the package.

Chapter 3
Basic Operation and First-Time Setup

Operation Methods

ATEN eco PDU models provide three methods to be accessed and managed: Browser, eco DC (Energy & DCIM management web GUI), and SNMP.

Note: The following sections of this chapter contain information concerning Browser operation. For eco DC operation, please refer to the eco DC user manual. The eco DC and user manual can be downloaded from the ATEN website.

Browser

ATEN eco PDUs can be accessed and controlled via any supported Internet browser from any platform. See *First-Time Setup*, page 24, and the following sections in this chapter, for full details.

eco DC

All eco PDUs support eco DC (Energy & DCIM management web GUI). eco DC provides you with an easy method for managing multiple devices, offering an intuitive and user-friendly graphical user interface that allows you to configure PDUs and monitor power status of all equipment connected. To install the software, please visit the product web page, and then download the installer from the Support and Downloads tab.

SNMP

eco PDUs support any 3rd party V1, V2 & V3 SNMP Manager Software. To install the software, please visit the product web page, and then download the installer from the Support and Downloads tab.

First-Time Setup

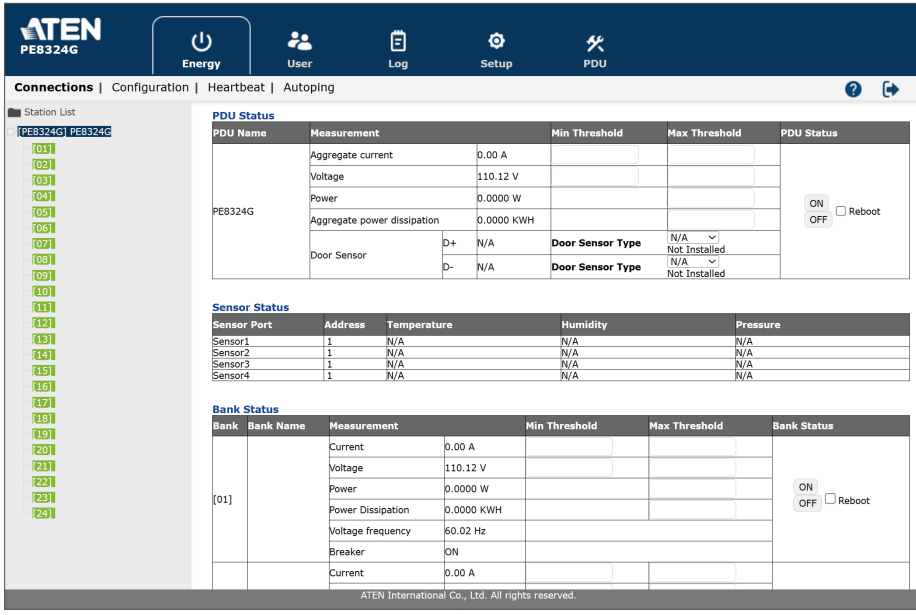
Once the eco PDU installation and connections have been completed, the administrator shall start configuring its network parameters, including changing the default administrator login settings and adding users.

The easiest way to accomplish this is to log in to it with a browser using a PC within the same LAN.

Note: 1. Since this is the first time you are logging in, use the default username and password *administrator* and *password*. For security purposes, users should change the login credentials to something unique after logging in(see *Changing the Administrator Login*, page 26).

2. For remote methods of getting logged into the network, see *IP Address Determination*, page 92.

After you successfully log in, the eco PDU Energy/Connections page appears:

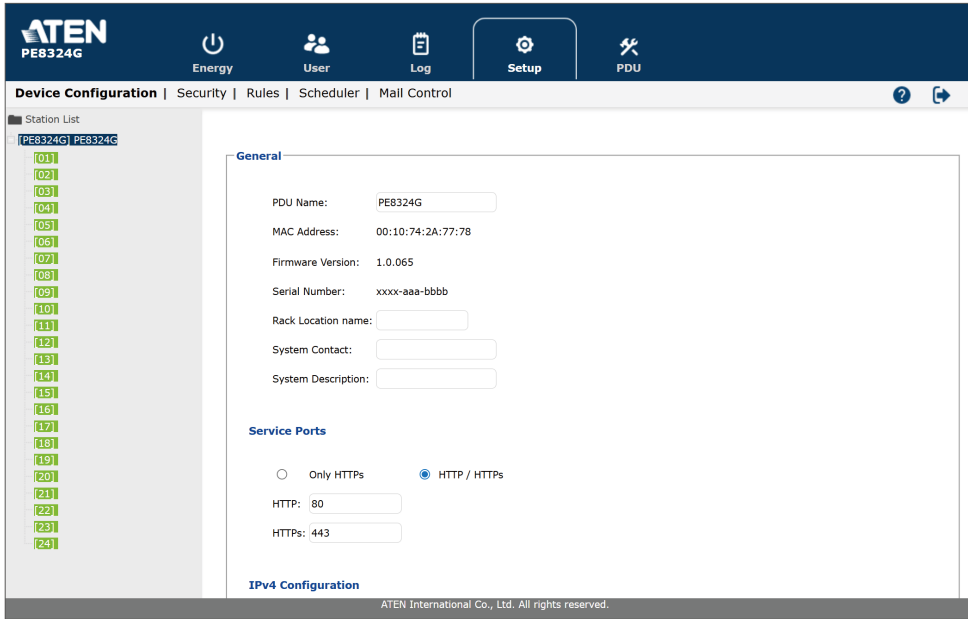


Note: Operation details are discussed in the next chapter. For further setup information, continue with this chapter

Network Configuration

To set up the network, do the following:

3. Click the **Setup**. The **Device Configuration** page, similar to the one below, appears.



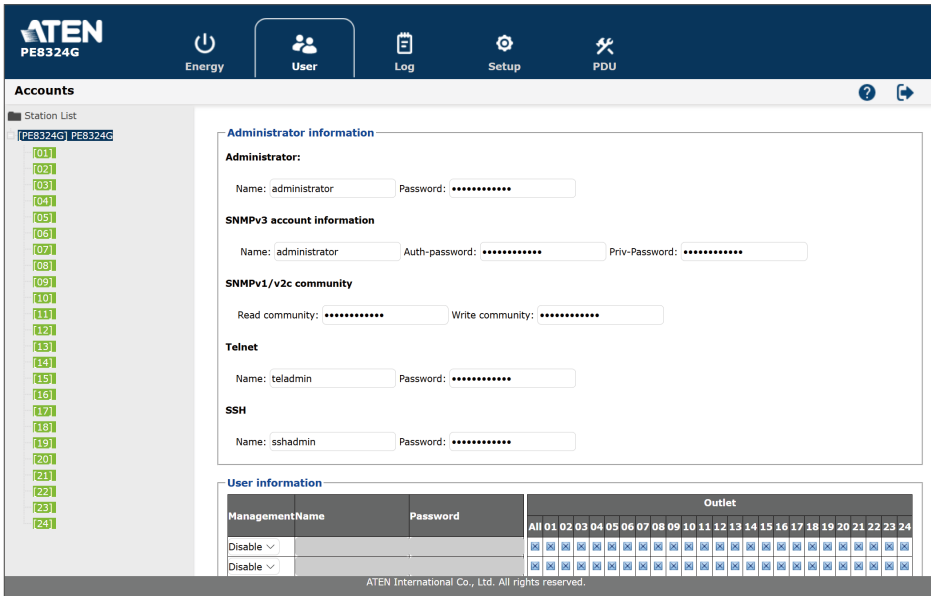
4. Fill in the fields according to the information provided under *The Device Configuration tab presents information about the device selected, as described in the following sections:*, page 55.

Changing the Administrator Login

To change the default administrator username and password, do the following:

1. Click **User**.

   Once users have been added to the system, the Accounts page displays a detailed list of users — with more information about them in the large central panel:



2. In the **Administrator Information** section at the top, reset the name and password fields to something unique, then click **Save** (at the bottom of the page.)

Note: If you forget the administrator's name or password, short the mainboard jumper to restore the default administrator account, see *Administrator Login Failure*, page 105, in the Appendix for full details.

Moving On

After setting up the network and changing the default administrator username and password, you can proceed to other administration activities, including adding users, which is covered in the next chapter.

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Chapter 4
Logging In

Logging In

The eco PDU can be accessed via a supported Internet browser from any platform.

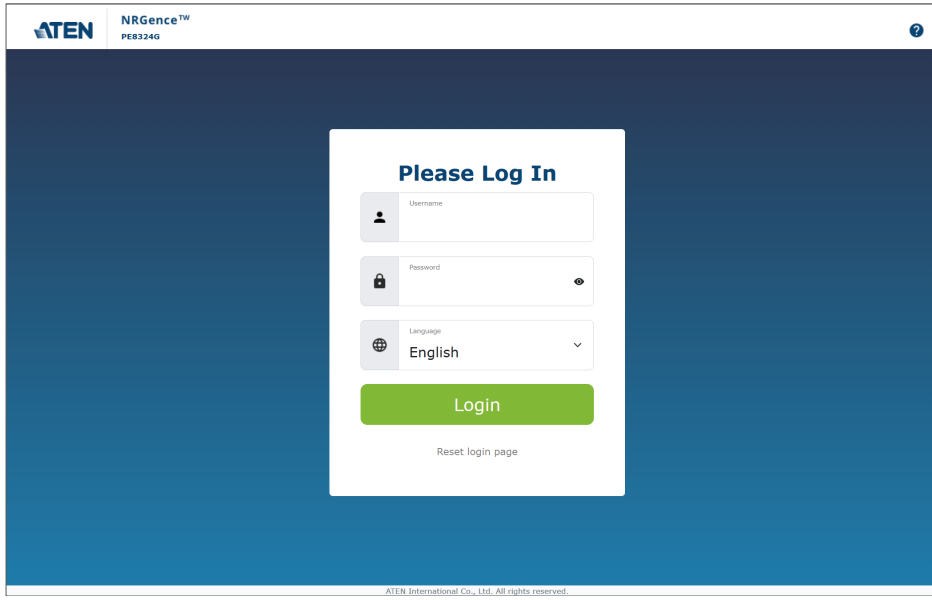
Note: Browsers must support TLS 1.0.

To access the eco PDU do the following:

1. Open your browser and specify the IP address of the eco PDU you want to access in the browser's URL location bar.

   Note: You can get the IP address from the eco PDU administrator, or see *IP Address Determination*, page 92, for information about setting it up yourself.

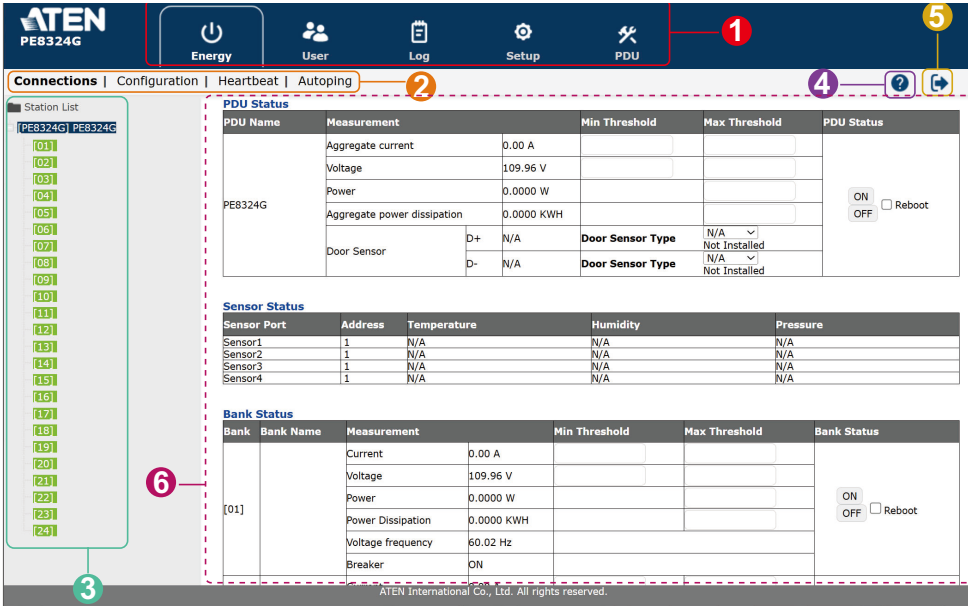
2. If a security alert dialog box appears, accept the certificate — it can be trusted. The Login page appears:



3. Provide a valid **Username** and **Password** (set by the eco PDU administrator).
4. Select your preferred **Language** from the drop-down menu.
5. Click **Login** to bring up the browser main page.

The eco PDU Main Page

After you have successfully logged in, the eco PDU main page comes up with the Energy *Connections* page displayed:



Note: The screen depicts an administrator's page. Depending on the type of user logged in and its permissions, and your PE model, not all of these elements may appear.

Page Components

The web page screen components are described in the table below:

No.	Item	Description
1	Tab Bar	The tab bar contains the eco PDU's main operation categories. The items that appear in the tab bar are determined by the user's type, and the setting permissions that were selected when the user's account was created.
2	Menu Bar	The menu bar contains operational subcategories within the item selected on the tab bar. The items that appear in the menu bar are determined by the user's type, and the setting permissions that were selected when the user's account was created.
3	Sidebar	The Sidebar provides a tree view listing of outlets that relate to the various tab bar and menu bar selections.
4	Help	Connects to the online help section on the ATEN website for the device's configuration and operation.
5	Logout	Click this button to log out of your eco PDU session.
6	Interactive Display Panel	This is your main work area. The screens that appear reflect your menu choices and Sidebar node selection.

The Energy page has two tabs: *Connections* and *Configuration*, as described in the chapters that follow.

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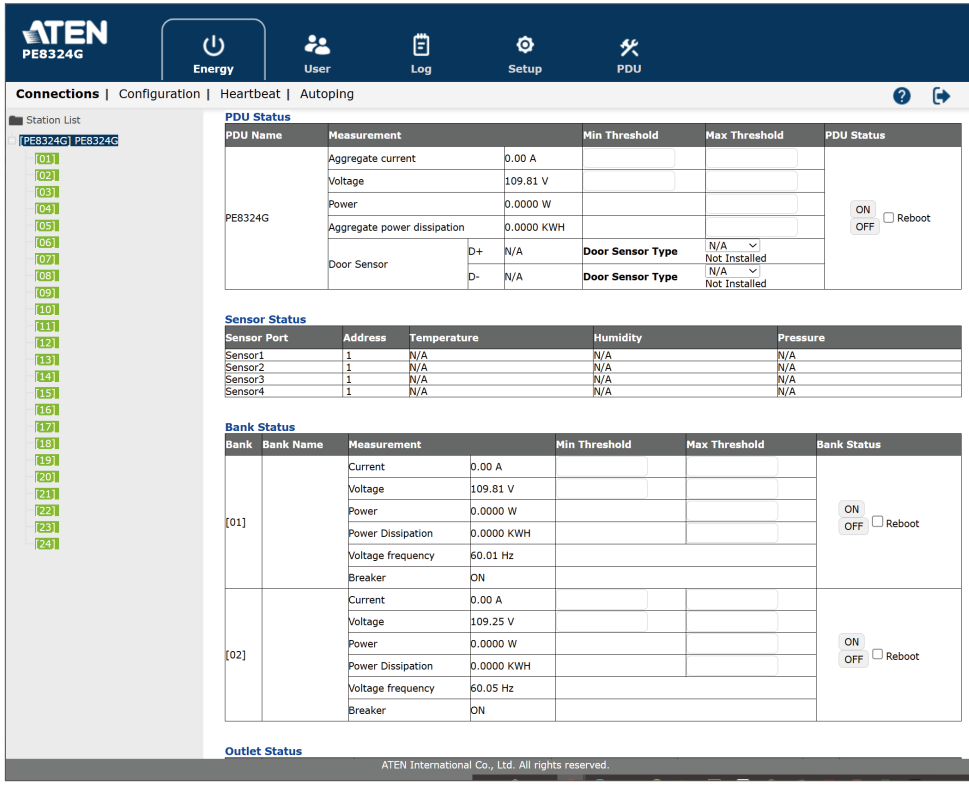
Chapter 5
Energy

Energy

Connections

When you log in to the eco PDU, the interface opens with its default selection of *Energy* > *Connections*, with the **PDU Status**, **Bank Status,** and **Outlet Status** sections displayed in the main panel.



Note: Only enabled eco PDU models will display the Bank Status and/or Outlet Status submenus.

PDU Status

All eco PDU models support PDU device level monitoring. The **PDU Status** section allows you to set up a power management configuration for the PDU device as a whole:

PDU Status

PDU Name	Measurement			Min Threshold	Max Threshold	PDU Status
PE8324G	Aggregate current		0.00 A			ON OFF Reboot
	Voltage		109.79 V			
	Power		0.0000 W			
	Aggregate power dissipation		0.0000 KWH			
	Door Sensor	D+	N/A	**Door Sensor Type**	N/A Not Installed	
		D-	N/A	**Door Sensor Type**	N/A Not Installed	

■ PDU Threshold Settings

- These fields are used to set the maximum, minimum, and fluctuation threshold settings for the Aggregate Current, Voltage, Power, and Aggregate Power Dissipation. If any of them falls below the minimum setting or exceeds the maximum setting, an alarm is triggered.
- **On / Off / Reboot**

  You can manually turn the device on or off from this page by clicking the radio buttons. To Reboot the device, enable the *Reboot* checkbox and click **Save** (located at the bottom of the page).

- **Door Sensor**

  This section allows you to select the type of door sensor that is being used in the installation. See *Door Sensor*, page 8, for further information.

Note: Supports up to two dry contact sensors on the PE8216 and PE8324.

■ Sensor Status

If you have sensors installed in your installation, use these fields to set the maximum, minimum, and fluctuation threshold settings for **Temperature**, **Humidity**, and/or **Pressure**.

Sensor Status

Sensor Port	Address	Temperature	Humidity	Pressure
Sensor1	1	N/A	N/A	N/A
Sensor2	1	N/A	N/A	N/A
Sensor3	1	N/A	N/A	N/A
Sensor4	1	N/A	N/A	N/A

Note: Sensors are optional accessories. Check with your dealer for details.

Bank Status

All eco PDU models support Bank level monitoring. The **Bank Status** section allows you to set up a power management configuration for each of the individual banks:

Bank Status

Bank	Bank Name	Measurement		Min Threshold	Max Threshold	Bank Status
[01]		Current	0.00 A			ON OFF Reboot
		Voltage	109.78 V			
		Power	0.0000 W			
		Power Dissipation	0.0000 KWH			
		Voltage frequency	59.96 Hz			
		Breaker	ON			
[02]		Current	0.00 A			ON OFF Reboot
		Voltage	109.29 V			
		Power	0.0000 W			
		Power Dissipation	0.0000 KWH			
		Voltage frequency	59.98 Hz			
		Breaker	ON			

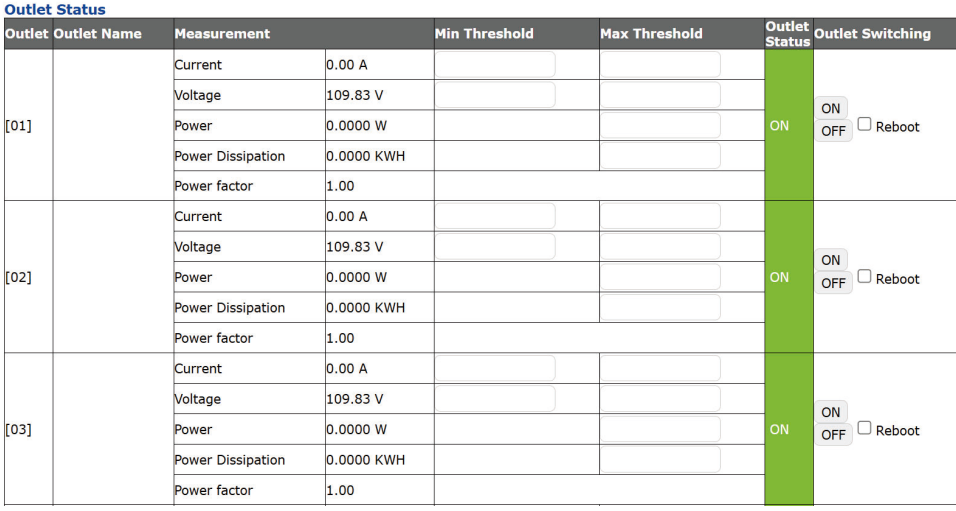
- **Threshold Settings**

  These fields are used to set the maximum, minimum, and fluctuation threshold settings for the Aggregate Current, Voltage, Power, and Power Dissipation. If any of them falls below the minimum setting or exceeds the maximum setting, an alarm is triggered.

- **Breaker** status (ON / OFF) displays here.

Outlet Status

If your eco PDU models supports outlet level power management, threshold settings and manual on/off/reboot switching can be performed on this page.



Outlet Status

Outlet	Outlet Name	Measurement		Min Threshold	Max Threshold	Outlet Status	Outlet Switching
[01]		Current	0.00 A			ON	ON OFF Reboot
		Voltage	109.83 V				
		Power	0.0000 W				
		Power Dissipation	0.0000 KWH				
		Power factor	1.00				
[02]		Current	0.00 A			ON	ON OFF Reboot
		Voltage	109.83 V				
		Power	0.0000 W				
		Power Dissipation	0.0000 KWH				
		Power factor	1.00				
[03]		Current	0.00 A			ON	ON OFF Reboot
		Voltage	109.83 V				
		Power	0.0000 W				
		Power Dissipation	0.0000 KWH				
		Power factor	1.00				

- **Threshold Settings**

  These fields are used to set the maximum, minimum, and fluctuation threshold settings for the Aggregate Current, Voltage, Power, and Power Dissipation. If any of them falls below the minimum setting or exceeds the maximum setting, an alarm is triggered.

- **Outlet Status**

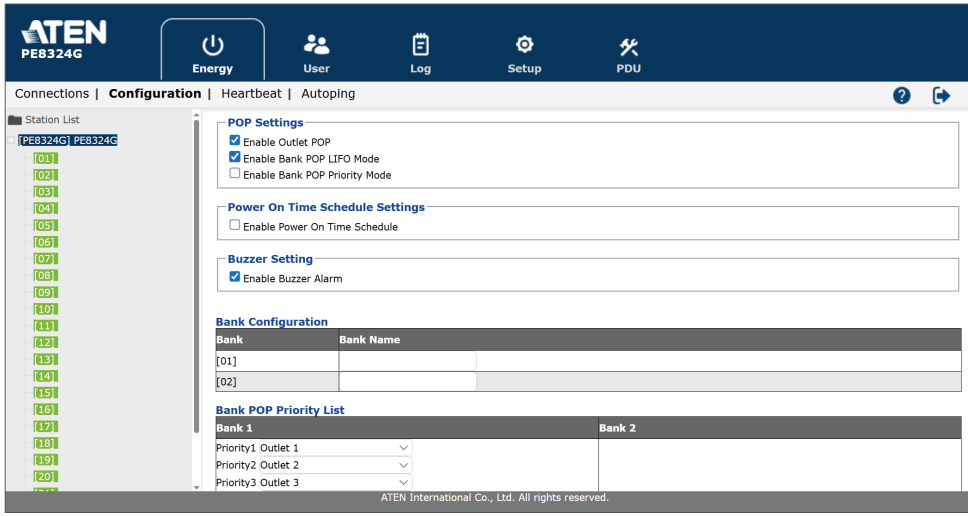
  Indicates each outlet status (ON / OFF / POP).

- **On / Off / Reboot**

  You can manually turn the outlet on or off from this page by clicking the radio buttons. To reboot the outlet, enable the *Reboot* checkbox and click **Save** (located at the bottom of the page).

Configuration

The *Configuration* page is used to configure the settings of the eco PDU at the bank and individual power outlet level:



POP Setting

- This section allows you to configure the settings for ATEN's exclusive Proactive Overload Protection (POP) technology. Effective on all non-critical outlets, this added safety feature automatically powers off when a current overload occurs.

Function	Description
Enable Outlet POP	Automatically powers off the outlets when a current overload occurs.
Enable Bank POP LIFO Mode	Automatically powers off the outlets in a last-in first-out sequence when a current overload occurs.
Enable Bank POP Priority Mode	Automatically powers off the outlets according to a pre-configured Bank POP Priority List.

Note: This feature is available on PE8216/8324 models only. See *Proactive Overload Protection (POP)*, page 6, for more details.

Bank Configuration

Each bank can be given a distinctive name. The maximum number of characters is 15.

Bank Configuration

Bank	Bank Name
[01]	
[02]	

Bank POP Priority List

Bank 1		Bank 2	
Priority1	Outlet 1	Priority1	Outlet 17
Priority2	Outlet 2	Priority2	Outlet 18
Priority3	Outlet 3	Priority3	Outlet 19
Priority4	Outlet 4	Priority4	Outlet 20
Priority5	Outlet 5	Priority5	Outlet 21
Priority6	Outlet 6	Priority6	Outlet 22
Priority7	Outlet 7	Priority7	Outlet 23
Priority8	Outlet 8	Priority8	Outlet 24
Priority9	Outlet 9		
Priority10	Outlet 10		
Priority11	Outlet 11		
Priority12	Outlet 12		
Priority13	Outlet 13		
Priority14	Outlet 14		
Priority15	Outlet 15		
Priority16	Outlet 16		

Bank POP Priority List

This field allows you to set up a POP priority list that the eco PDU powers off the outlets according to sequence configured in this list.

Outlet Configuration

This page lets you set up the power management configuration for the selected outlet. The meanings of the field headings are described in the following table.

Outlet Configuration

Outlet	Outlet Name	Confirmation Required	Delay Time (sec)		Remote Turn ON Method
			Power ON	Power OFF	
[01]		☐	5	1	Method: Kill the Power MAC Address: 000000000000
[02]		☐	5	1	Method: Kill the Power MAC Address: 000000000000
[03]		☐	5	1	Method: Kill the Power MAC Address: 000000000000

:

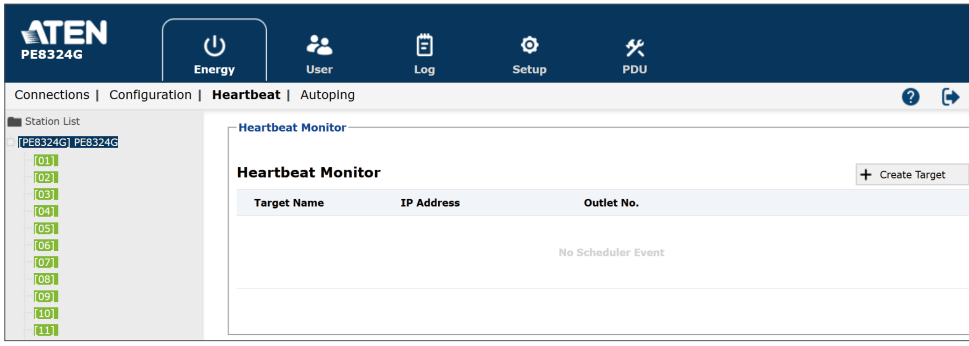
Heading	Meaning
Outlet Name	Each outlet can be given a distinctive name. The maximum number of characters is 15.
Confirmation Required	When enabled (checked), users are prompted to confirm every power operation before it is performed. When disabled (unchecked), power operations are performed without confirmation.
Power ON Delay	Sets the amount of time the eco PDU shall wait for after the Power Button is clicked (see *Bank Status*, page 35), before it powers on the outlet. **Note:** The default delay time is 0 seconds; the maximum is 999 seconds. When a series of outlets are scheduled to be powered up, they turn on in sequence with a default delay of 10 milliseconds between each outlet.
Power OFF Delay	Sets the amount of time the eco PDU shall wait for after the Power Button is clicked (see *Bank Status*, page 35), before it turns off the outlet's power. For the *System after AC Back* option (see below), after the delay time expires, the eco PDU waits for another fifteen seconds, then shuts down the computer. The default delay time is 15 sec; the maximum delay time is 999 sec.

Heading	Meaning
Remote Turn ON Method	Use the drop-down menu to select one of the following: **Wake on LAN** This is a safe shutdown and restart option. If selected, when an Outlet is turned Off, the eco PDU first sends a message to the computer telling it to prepare for a shutdown; it then waits for the amount of time set by the *Power Off Delay* field to give the OS time to shut down before the computer is powered down to standby mode. Likewise, when the Outlet is turned On, the eco PDU waits for the amount of time set by the *Power On Delay* field, then sends an Ethernet message to the computer connected to the Outlet, telling the computer to turn itself On. **Note:** For safe shutdown and restart, the computer must be running Windows (98 or higher), or Linux, with the *safe shutdown* program (available by download from our website), installed and running. (Continues on next page)
Remote Turn ON Method	**System after AC Back** This is a safe shutdown and restart option. If selected, when an Outlet is turned Off, the eco PDU first sends a message to the computer telling it to prepare for shutdown; it then waits for the amount of time set by the *Power Off Delay* field to give the OS time to shut down before the computer is powered down. When the Outlet is turned On, the eco PDU waits for the amount of time set by the *Power On Delay* field, then sends power to the server. When the server receives power, it shall turn itself on. **Note:** For safe shutdown and restart, the computer must be running Windows (98 or higher), or Linux, with the *safe shutdown* program (available by download from our website), installed and running. **Kill the Power** If selected, the eco PDU waits for the amount of time set by the *Power Off Delay* field, and then turns the Outlet's power Off. A cold (non-safe) shutdown is performed.
MAC Address	In order to use either of the safe shutdown and restart methods, the MAC address of the computer connected to the outlet must be filled in here.

When you have finished making your configuration settings, click **Save**.

Heartbeat

The Heartbeat page helps you to monitor the connected devices by setting your target device(s) to send the data packet to the eco PDU. You can define the mechanisms to instruct the eco PDU Power Controller to monitor the connected device(s) and control when the outlet(s) is rebooted.



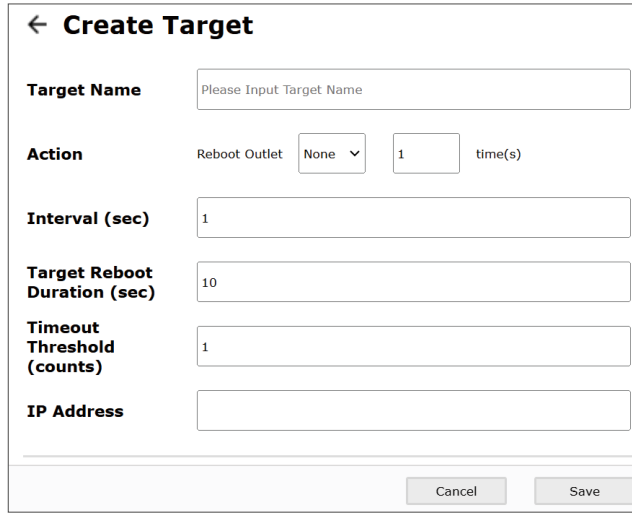
Make sure to install the ATEN utility, Power Monitor, to your PC before configuring Heartbeat Monitor settings. You can download the Power Monitor installer from the Support and Downloads tab of the product page.

Software & Drivers

OS	Description	Ver.	Release Date	File Name
MIB File				
	PE568 MIB File (PE_ATA)	v1.3.128	2025-02-04	PE568_MIB_v1.3.128.zip
	PE568 MIB File (PG & PE_ATB)	v1.2.113	2024-12-20	PE568_MIB_v1.2.113.zip
	PE MIB File	v1.1.115	2015-05-05	PE_MIB_File_v1.1.115.zip
Other				
	PE MIB File	v1.1.112	2014-06-19	pe7_8_9_MIB_File_v1.1.112.zip
	PE MIB File	v1.1.109	2013-08-30	pe7_8_9_MIB_File_v1.1.109.zip
Linux	PMonitor	v1.1.107	2013-03-08	PMonitor_linux_v1.1.107.zip
	PE MIB File	v1.0.064	2013-03-08	pe9324_MIB_File_v1.0.064.zip
Windows	PMonitor	v1.0.081	2012-02-10	PMonitorSrv_v1.0.081.zip

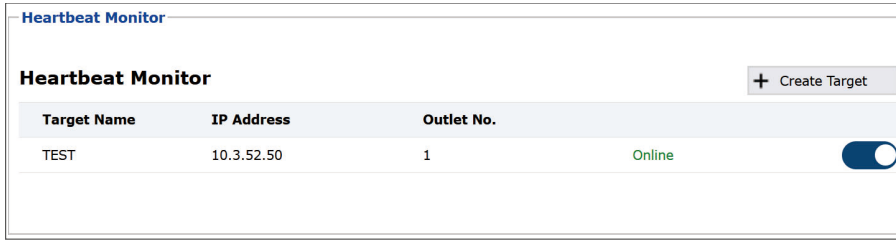
Create a New Target

To create a new target, click on the **+Create Target** button to enter Create Target page, and fill in the following fields:



Item	Description
Target Name	Enter the name for the target device.
Action	Select the outlet to be rebooted, and define how many times you'd like to reboot the selected outlet. “None” means no outlet will be rebooted.
Interval (sec)	Set the period between two data packets receive events.
Target Reboot Duration (sec)	Set the delay time to instruct the eco PDU to wait after the selected outlet is successfully rebooted. The eco PDU will not start to receive data packets from the target device till the delay time is reached.
Timeout Threshold (counts)	Determine the number of times that the eco PDUperforms the action “Interval (sec)” and receives no data packets before rebooting the selected outlet.
IP Address	Enter the IP address of the target device.
Cancel / Save	Click on Save button to finish your settings, or click on Cancel button to discard the changes.

Save your settings, and now the target is created and listed on the Heartbeat Monitor list.

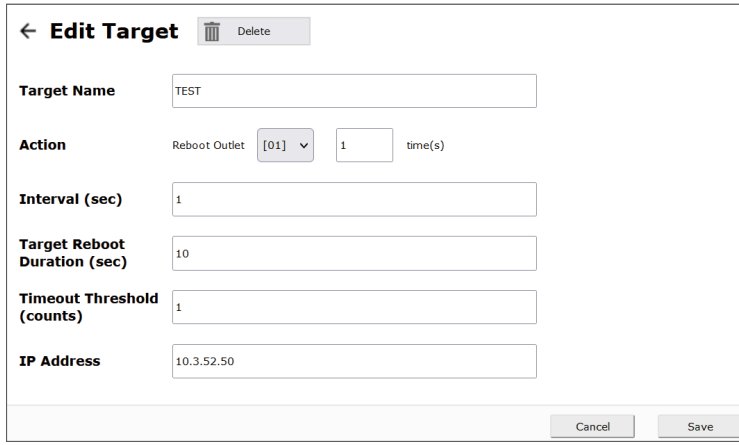


Monitor, Edit, and Delete a Target

Heartbeat Monitor list delivers the following information:

Item	Description
Target Name	The name of the target device
IP Address	The IP address of the target device
Outlet No.	The outlet you selected to reboot once the criteria are triggered
Online / Offline	The status of the target device
Switch	The switch button to enable or disable the control and monitoring mechanisms

To edit or delete a target, click on the target to be edited to enter the *Edit Target* page.

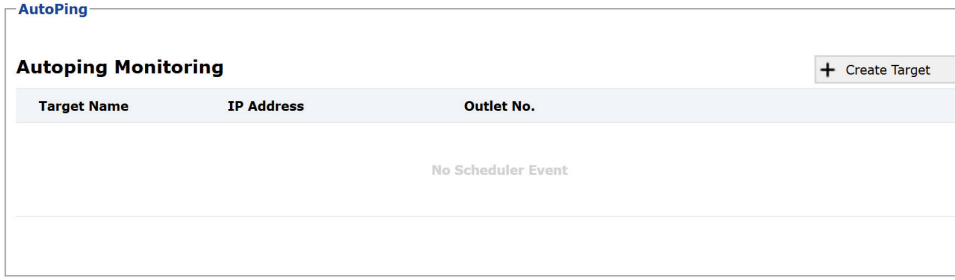


On the *Edit Target* page, you may:

- Make changes of the settings and click on **Save** button to apply the changed settings.
- Click on **Cancel** button to discard your changed settings.
- Click on **Delete** button to remove the target from *Heartbeat Monitor* list.

Autoping

Autoping Monitoring defines the mechanism which the eco PDU uses to ping a device and to reboot the outlet. To enable this setting, you need to create a new target first.

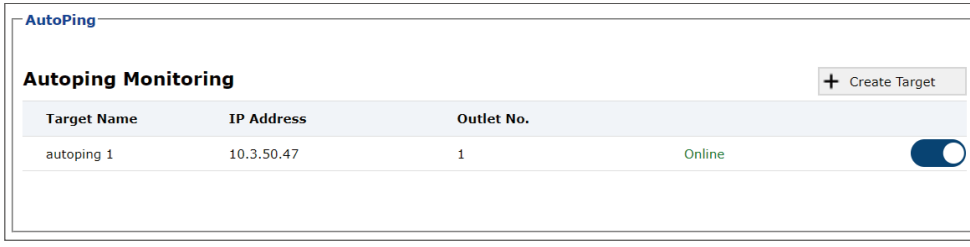


Create a New Target

To create a new target, click on the **+Create Target** button to enter *Create Target* page, and fill in the following fields:

Item	Description
Target Name	Enter the name for the target device.
Action	Enter the maximum number of times that the eco PDU reboots the outlet of the target device after the consecutive pings. "None" means no outlet will be rebooted.
Interval (sec)	Enter the number of seconds to elapse between each auto-ping that is sent to test the network device.
Target Reboot Duration (sec)	Set the delay time to instruct the eco PDU to wait after the target outlet is successfully rebooted. The eco PDUwill not start to ping the target device till the delay time is reached.
Timeout Threshold (counts)	Determine the number of times that the eco PDU performs the action “Interval (sec)” and gets no feedback from the target device before rebooting the target outlet.
IP Address	Enter the IP address of the device you want to ping.
Cancel / Save	Click on Save button to finish your settings, or click on Cancel button to discard the changes.

Once the autoping target is created, it is listed on the Autoping Monitoring list with the following information displayed:



Item	Description
Target Name	The name of the target device
IP Address	The IP address of the target device
Outlet No.	The outlet you selected to reboot once the criteria are triggered
Online / Offline	The status of the target device
Switch	The switch button to enable or disable the control and monitoring mechanisms

Monitor, Edit, and Delete a Target

To edit or delete a target, click on the target to be edited to enter the *Edit Target* page. On the *Edit Target* page, you may:

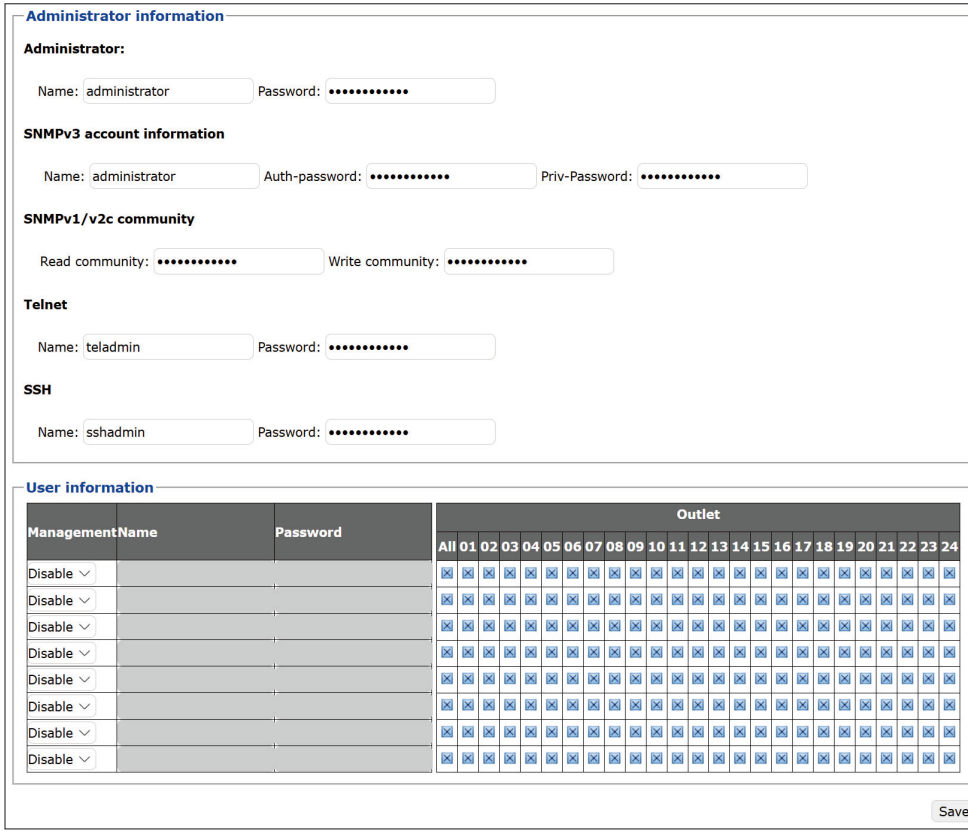
- Make changes of the settings and click on **Save** button to apply the changed settings.
- Click on **Cancel** button to discard your changed settings.

Click on **Delete** button to remove the target from *Heartbeat Monitor* list.

Chapter 6
User Management

Overview

Selecting the *User* tab brings up the *Accounts* menu, with the *Administrator Information* and *User Information* displayed in the main panel:



Note: There is a pre-installed administrator account. It can be used to set up the device and to begin creating users and groups. The username and password for this account is *administrator* and *password*. For security purposes, we strongly recommend changing these to something unique.

Administrator Information

This section is used to set the administrator username and password. Only administrators can view this section. For details, see *Changing the Administrator Login*, page 26.

SNMPv3 Account Information

Enter values for Name, Auth-Password and Priv-Password for SNMPv3 authentication, if required.

SNMPv1/v2c Community

Enter values Read community and Write community for SNMPv1/V2c authentication, if required.

Telnet

Use the Name and Password fields to change the account used to login via Telnet sessions.

SSH

Enter values in the required fields to change the account used to login via SSH.

Click Save to save your settings.

User Information

To add a user, do the following:

1. Select the user type in the Management drop-down menu.
2. Key in a name and password in the Name and Password fields.
3. Set the outlet-by-outlet permissions of the user in the Outlet field.
4. Click *Save* to save your settings.

Note: Values must be entered in both the Name and Password fields in order to enable an account.

The available options are explained in the following table:

Field	Description	
Management	The Management field allows you to Enable or Disable a user's account: ◆ Enable: Stores the user account ◆ Disable: Disables the user account	
Name	From 1 to 16 characters are allowed.	
Password	From 1 to 16 characters are allowed.	
Outlet	This field allows you to set the outlet-by-outlet permissions of the user. Click on the user/port icon to cycle through the three permissions options, as follows:	
		User has complete access to this outlet.
		User has read-only access to this outlet.
		User has no access to this outlet.
Save	Click this button to save your operation or changes	

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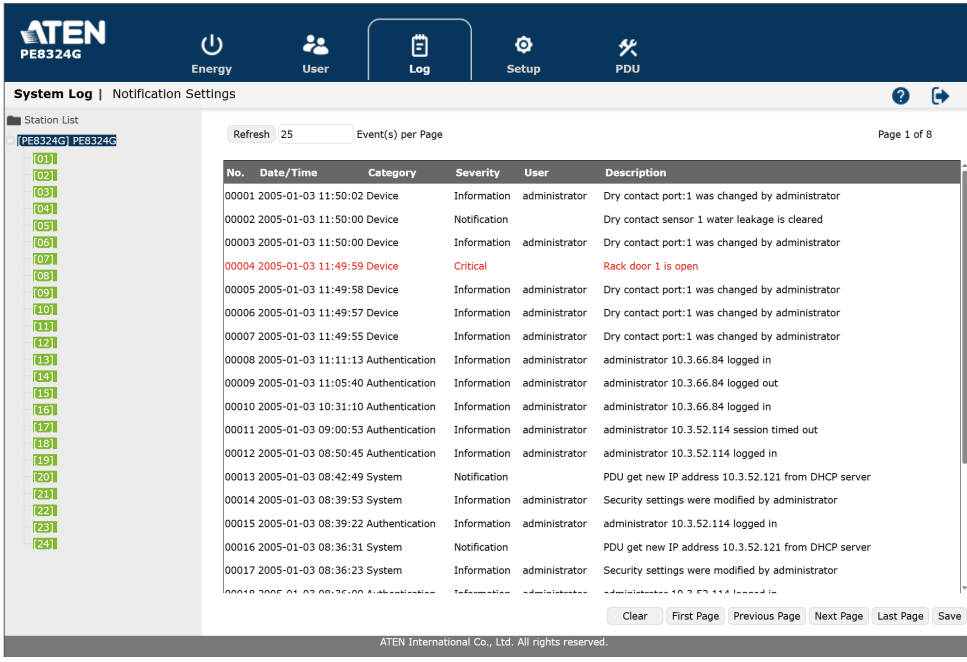
Chapter 7
Log

Log

The eco PDU keeps a record of all transactions that take place on its installation, and stores up to 128 events at a any given time. The System Log page provides a powerful array of filters and functions that allow you to view and export the log file data, as well as be informed by email of specified events as they occur.

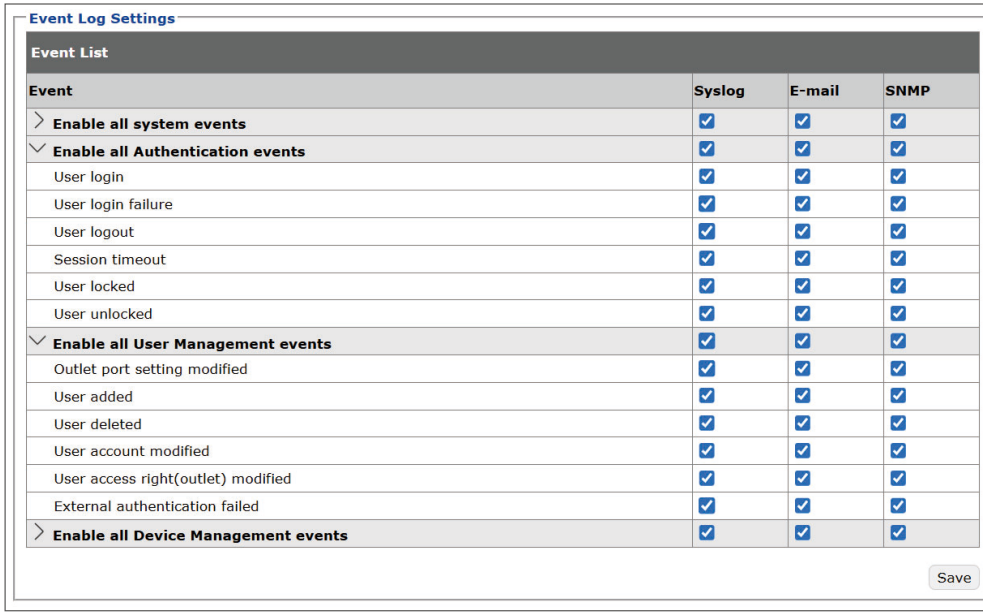


The System Log Event List

- Clicking on a device in the Sidebar displays its log events in the main panel's log event list.
- Clicking the **Refresh** button updates the log list with the latest events.
- The entry box to the right of the Refresh button lets you set the number of events displayed per page.
- The top right of the main panel shows the total number of pages in the log file, and the number of the page you are currently viewing.
- The buttons in the bottom row function as follows:
  - **Clear**:
    Click to erase the contents of the log event list
  - **First Page**:
    Click to go to the first page of the log event list
  - **Previous Page**:
    Click to move to the previous page of the log event list
  - **Next Page**:
    Click to move to the next page of the log event list
  - **Last Page**:
    Click to move to the last page of the log event list
  - **Export Log**:
    Click to export and save the contents of the log event list as an exported file. Select to save as a .csv file or a .txt file, and click Save again to export it.

Notification Settings

The *Notification Settings* page is used to specify which of the eco PDU's components will receive notification of a log event. When you click the Notification Settings menu item, a page similar to the one below appears:



- The event categories are listed in the left column.
  - When you first open the page, only the main category items appear. (Main category item rows have a gray background.)
  - Sub-category items are nested under the main category headings. Click the arrow in front of the main category headings to display the subcategory items. (Sub-category item rows have a white background.)
- Click the checkboxes under the column headings to select which component(s) will receive notification of the log events.
  - Clicking on a main category heading's row automatically selects all the sub-category items nested below it.
  - If you only want to set notification for some of the sub-category events, don't put a check in the main category row. Instead, drop down the sub-category list, and only check the sub-category events you want.

- When you have finished making your setting choices, click Save. When a specified log event occurs, notification of that event will be sent to the selected component.
- Reset Digital Output: If an event has been triggered that changes the digital output sensor from Low to High, click this button to return the sensor to the Low state.

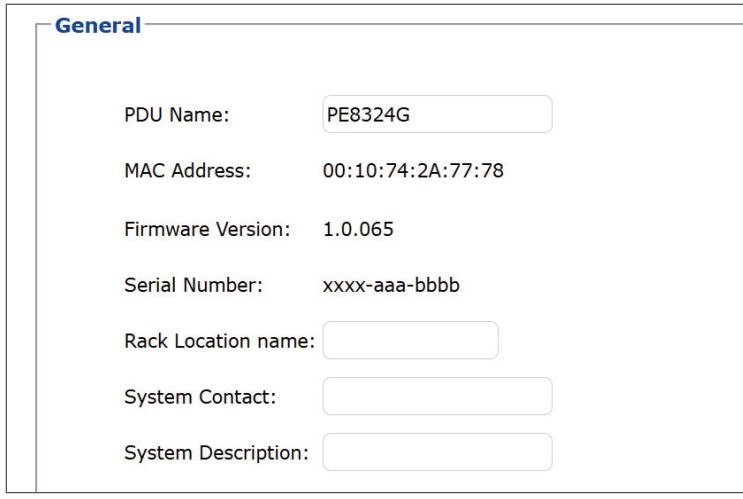
When you have finished making your configuration settings, click **Save**.

Chapter 8
Setup

Device Configuration

The *Setup* page allows administrators and users with device management permission to configure and control the overall eco PDU operations. The *Device Configuration* tab presents information about the device selected, as described in the following sections:

General



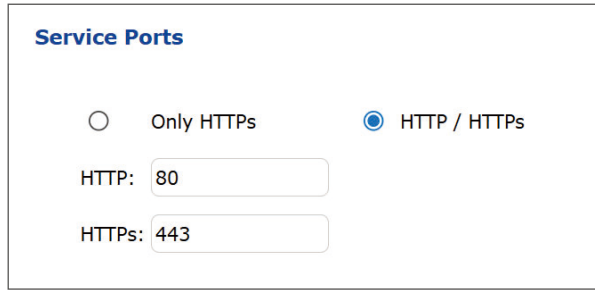
Item	Meaning
PDU Name	This field lets you rename the device as desired. Simply key in the name of your choice. Click **Save** (located at the bottom of the page) to save the new name.
MAC Address	This item displays the eco PDU's MAC address.
Firmware Version	This item displays the current firmware version. You can check if there are any newer versions available on the ATEN website.
Rack Location Name	This field lets you give the rack location a unique name for easy reference.

Item	Meaning
System Contact	These two fields allow users to enter information that can be retrieved through SNMP using the standard MIB objects sysContact and sysDescr. ◆ System Contact: Provides the textual identification of the contact person for the device. ◆ System Description: Provides a textual description of the device, including hardware and software details.
System Description	

Service Ports

As a security measure, if a firewall is being used, the administrator can specify the port numbers that the firewall will allow. If a port other than the default is used, users must specify the port number as part of the IP address when logging in. If an invalid port number (or no port number) is specified, the eco PDU will not be found.

Select whether to allow only secure browser logins, as shown below:



An explanation of the fields is given in the table below:

Field	Explanation
HTTP	The port number for a browser login. The default is 80.
HTTPS	The port number for a secure browser login. The default is 443.

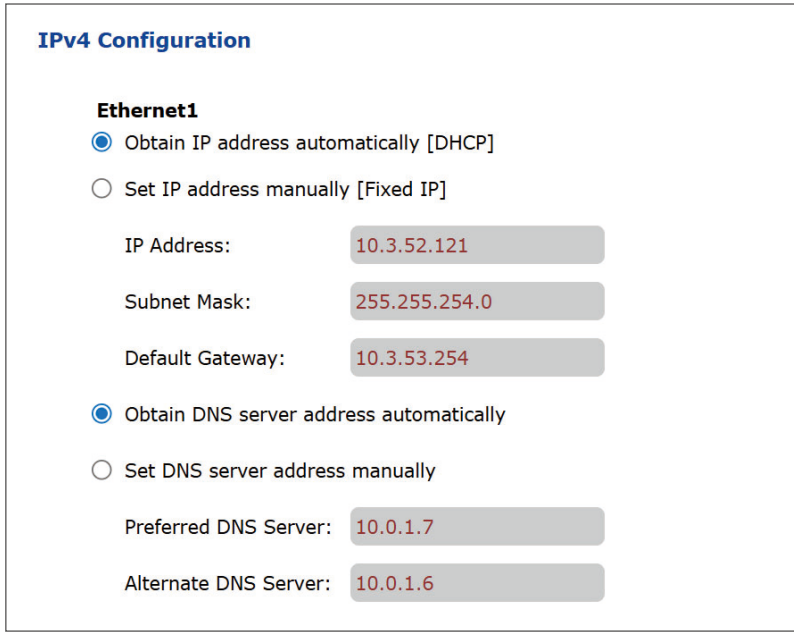
Note: 1. Valid entries for all of the Service Ports are from 1 to 65535.

2. The service ports cannot have the same value. You must set a different value for each.

3. If there is no firewall (on an Intranet, for example), it doesn't matter what these numbers are set to, since they have no effect.

IPv4 Configuration

The PDU's IPv4 IP and DNS addresses (the traditional method of specifying IP addresses) can either be assigned automatically (DHCP), or manually, by specifying a fix IP address.



- For dynamic IP address assignment, select the *Obtain IP address automatically* radio button. (This is the default setting.)
- To specify a fixed IP address, select the *Set IP address manually* radio button and fill in the IP address with values appropriate for your network.
- For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* radio button.
- To specify the DNS Server address manually, select the *Set DNS server address manually* radio button, and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

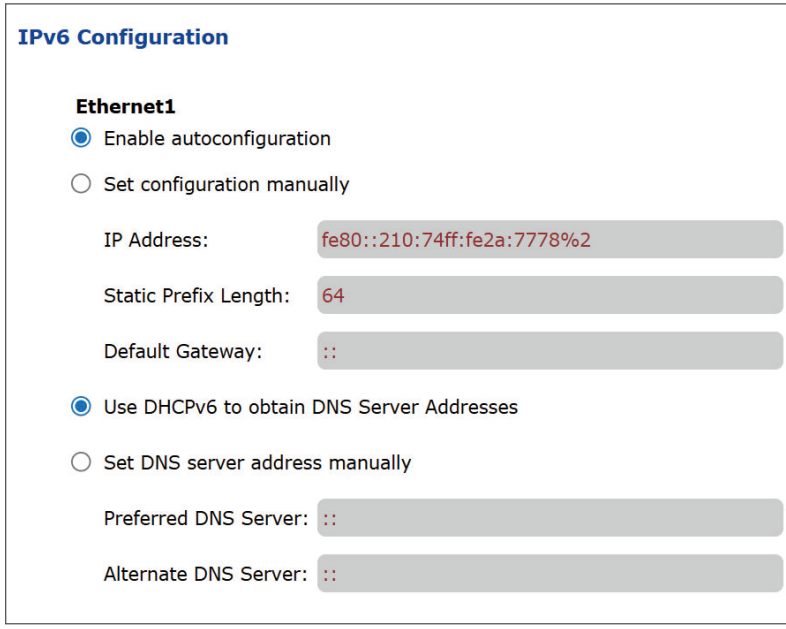
Note: 1. If you choose *Obtain IP address automatically*, when the device starts up, it shall wait for its assigned IP address from the DHCP server. If it hasn't obtained an IP address after one minute, it automatically reverts to its default IP address (192.168.0.60.)

2. If the device is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address, see *IP Address Determination*, page 92.

3. Specifying the Alternate DNS Server address is optional.

IPv6 Configuration

The eco PDU's IPv6 IP and DNS addresses (the traditional method of specifying IP addresses) can either be assigned automatically (DHCP), or manually, by specifying a fix IP address.



- For dynamic IP address assignment, select the *Enable autoconfiguration* radio button. (This is the default setting.)
- To specify a fixed IP address, select the *Set configuration manually* radio button and fill in the IP address with values appropriate for your network.

- For automatic DNS Server address assignment, select the *Use DHCPv6 to obtain DNS Server Addresses* radio button.
- To specify the DNS Server address manually, select the *Set DNS server address manually* radio button, and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

Note: 1. If you choose *Obtain IP address automatically*, when the device starts up, it shall wait for its assigned IP address from the DHCP server. If it hasn't obtained an IP address after one minute, it automatically reverts to its default IP address (192.168.0.60.)

2. If the device is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address, see *IP Address Determination*, page 117.

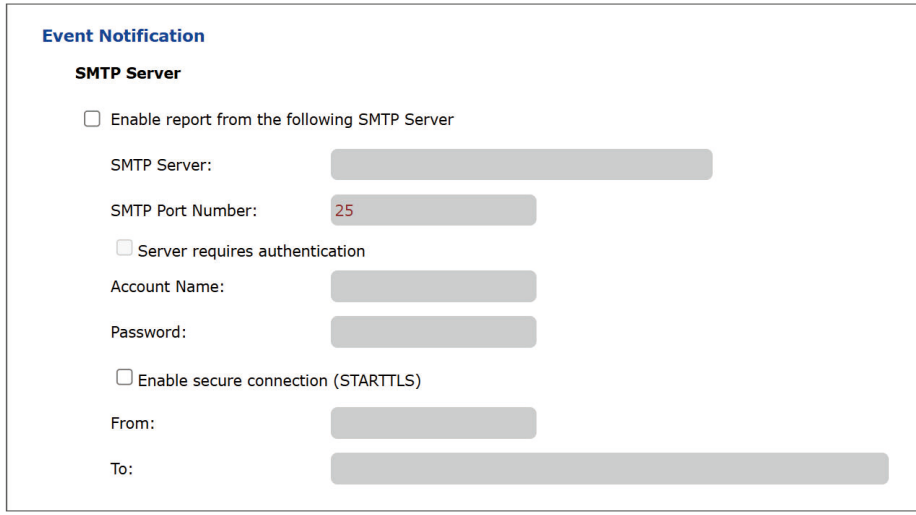
3. Specifying the Alternate DNS Server address is optional.

Event Notification

The Event Notification section is divided into three sections: SMTP Settings, SNMP Trap Receivers, and Syslog Server. Each section is described below.

Note: SMTP communications are supported on Port 25.

SMTP Settings



To have the eco PDU device send e-mail reports from the SMTP server, do the following:

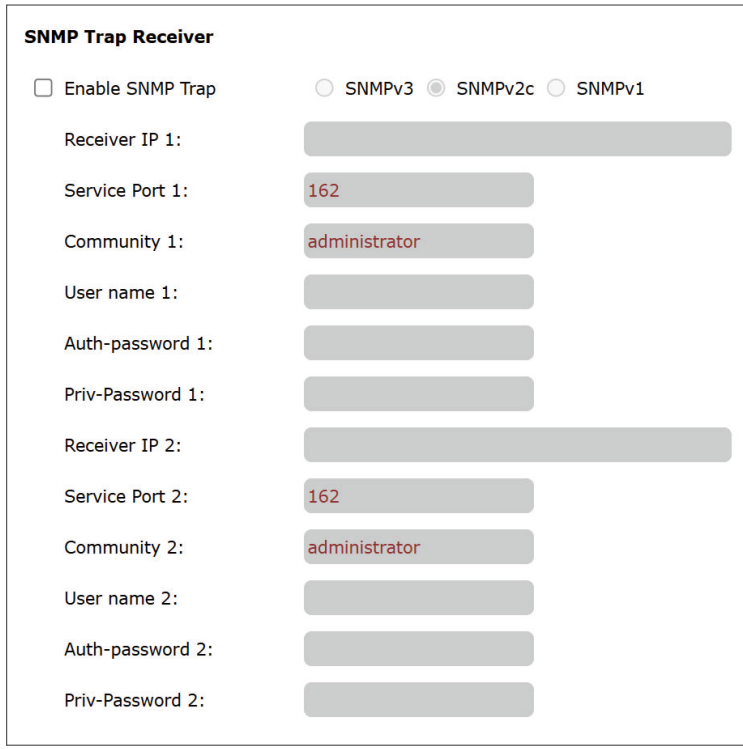
1. Check *Enable report from the following SMTP server*, and key in the IP address of your SMTP server.
2. If your server requires authentication, check the *My server requires authentication* checkbox.
3. Key in the appropriate account information in the *Account Name*, *Password*, and *From* fields.

   Note: Only one email address is allowed in the *From* field, and it cannot exceed 64 characters.)

4. Key in the e-mail address(es) of where you want the event reports to be sent in the *To* field.

   Note: If you are sending the report to more than one e-mail address, separate the addresses with a semicolon or comma, depending on the specified mail server. The total cannot exceed 256 characters.

SNMP Trap Receivers



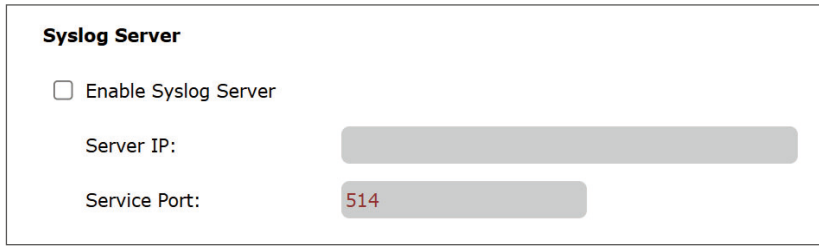
Up to four SNMP management stations can be specified. If you want to send out SNMP trap notifications, do the following:

1. Check *Enable SNMP Trap*.
2. Select which version of SNMP you want to use.
3. Key in the IP address(es) and the service port number(s) of the computer(s) to be notified by the SNMP trap events. The valid port range is 1–65535, with the default port value being162.

Note: Make sure that the port number you specify here matches the port number used by the SNMP receiver computer.

4. Key in the community value(s) if required by the version of SNMP used.
5. Key in the auth/privacy password(s) that correspond to each of the stations.

Syslog Server

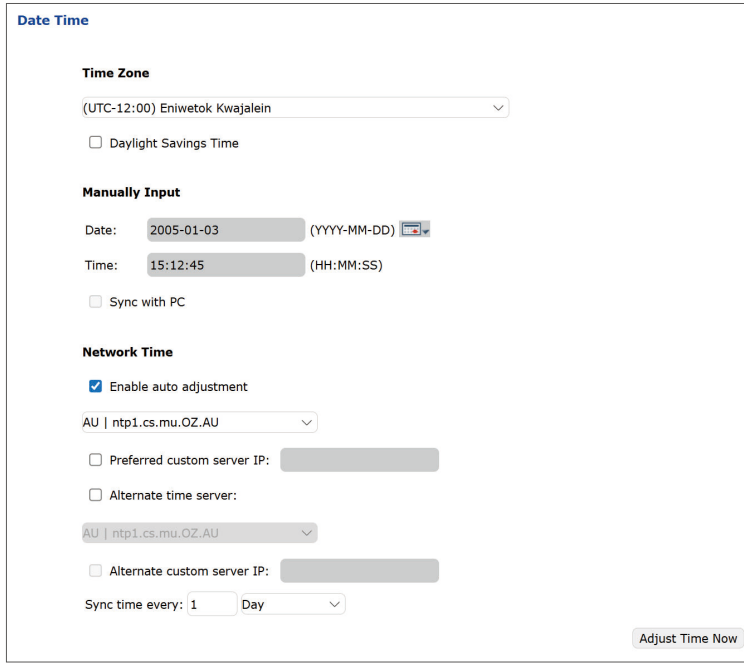


To record all events that take place on the eco PDU devices, and write them to the eco PDU Syslog server, do the following:

1. Check **Enable Syslog Server**.
2. Key in the IP address and port number of the Syslog server. The valid port range is 1–65535. The default port value is 514.

Date/Time

The Date/Time dialog page sets the eco PDU's time parameters:



Set the parameters according to the information described below.

Time Zone

- To establish the time zone that the eco PDU is located in, use the *Time Zone* drop-down menu to choose the city that most closely corresponds to where it is at.
- If your country or region employs daylight saving time (summer time), check the corresponding checkbox.

Manual Input

Use this section to specify the eco PDU's date and time manually.

- Click the calendar icon and select a calendar entry for the date.
- Key the time into the *Time* field, using the HH:MM:SS (hours, minutes, seconds) format.

Note: This section is only enabled when *auto adjustment* (in the *Network Time* section) is disabled (unchecked).

As an alternative to specifying the date and time by entering them into the date and time fields, you can check the *Sync with PC* checkbox, where the eco PDU will take its date and time settings from the locally connected PC.

Network Time

To have the time automatically synchronized to a network time server, do the following:

1. Check the *Enable auto adjustment* checkbox.
2. Select your preferred time server, or check the *Preferred custom server IP* checkbox, and key in the IP address of the time server of your choice.
3. If you want to configure an alternate time server, check the *Alternate time server* checkbox, and repeat step 2 for the alternate time server entries.
4. Key in your choice for the number of days between synchronization procedures.

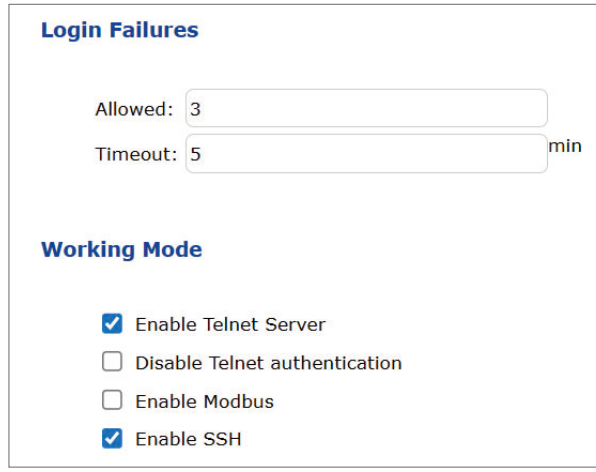
Finishing Up

When you have finished making your settings on this page, click **Save**.

After you have saved your changes, click **Adjust Time Now** to synchronize immediately according to the time settings.

Security

The Security page controls access to the eco PDU.



Login Failures

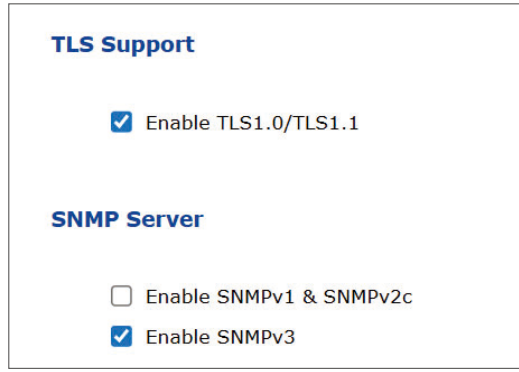
- **Allowed** sets the number of consecutive failed login attempts that are permitted from a remote user.
- **Timeout** sets the amount of time a remote user must wait before attempting to log in again after exceeding the number of allowed failures.

Working Mode

- If Enable Telnet Server is checked, the eco PDU is accessible via a Telnet sessions using the Telnet username and password (see Telnet, page 25).
- If Enable Modbus is checked, the eco PDU is accessible and the measurements of the eco PDU such as current, voltage, power, temperature, humidity, and pressure can be read via the Modbus communications protocol.
- If Enable SSH is checked, the PDU is accessible and the measurements of the PDU such as current, voltage, power, temperature, humidity, and pressure can be read via the SSH cryptographic network protocol.

TLS Support

- If TLS Support is checked, the PDU is accessible on older computers or older web browsers that support TLS1.0 or TLS1.1 data encryption.

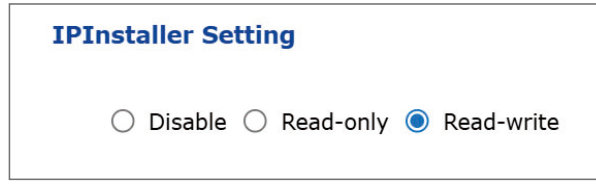


SNMP Server

This option allows you to enable SNMP (Simple Network Management Protocol) services for remote monitoring and management of the PDU.

- **SNMPv1 & SNMPv2c**: Provide basic monitoring and management features with community-based access control.
- **SNMPv3**: Offers enhanced security, including authentication and encryption, to protect management communications.

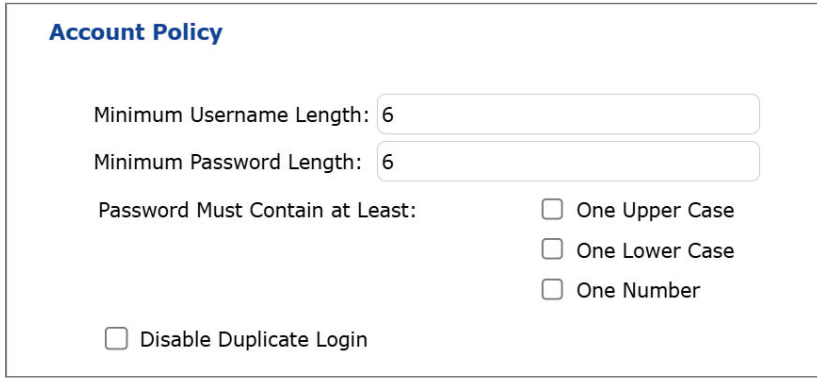
IPInstaller Setting



- If **Disable** is checked, the IP address of the eco PDU cannot be found by the IP Installer software.
- If **Read-only** is checked, the IP address of the eco PDU can be found but not configurable by the IP Installer software.
- If **Read-write** is checked, the IP address of the eco PDU can be found and configurable by the IP Installer software.

Account Policy

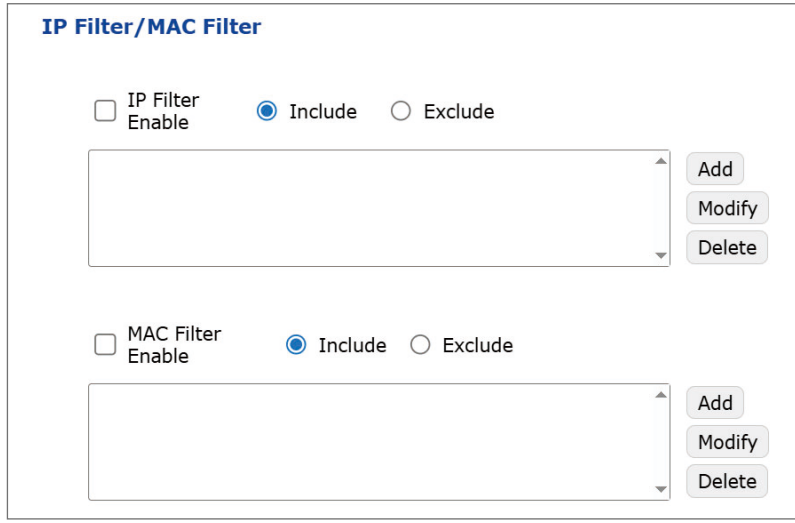
The Account Policy section governs policies in regard to the login usernames and passwords.



Check a policy and enter the required information in the appropriate fields.

Item	Description
Minimum Username Length	Sets the minimum number of characters required for a username. Acceptable values are from 1 to 16.
Minimum Password Length	Sets the minimum number of characters required for a password. Acceptable values are from 1 to 16.
Password Must Contain At Least	Checking any of these items requires users to include at least one of the specified items in their password. **Note:** This policy does not affect existing user accounts. Only new user accounts created after this policy has been enabled, and users required to change their passwords are affected.
Disable Duplicate Login	Check this to prevent users from logging in with the same account at the same time.

IP Filter / Mac Filter



If any filters have been configured, they appear in the IP Filter and/or MAC Filter list boxes.

IP and MAC Filters control access to the eco PDU based on the IP and/or MAC addresses of the client computers attempting to connect. A maximum of 5 IP filters and 5 MAC filters are allowed.

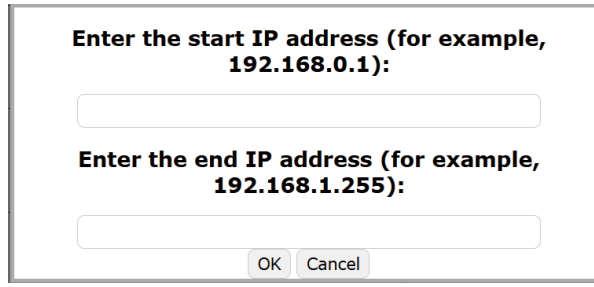
To enable IP and/or MAC filtering, check the *IP Filter Enable* and/or *MAC Filter Enable* checkbox.

- If the include button is checked, all addresses within the filter range are allowed access, while all other addresses are denied access.
- If the exclude button is checked, all addresses within the filter range are denied access, while all other addresses are allowed access.

Adding Filters

To add an IP filter, do the following:

1. Click **Add**. A dialog box similar to the one below appears:



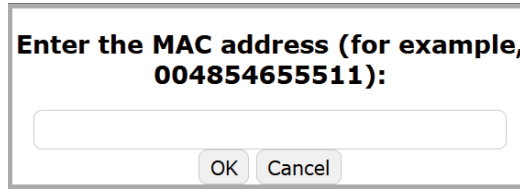
Specify the filter address in the dialog box (for example, 192.168.0.200), then click **OK**.

2. To filter a single IP address, key in the same address as the start IP. To filter a continuous range of addresses, key in the end number of the range (for example, 192.168.0.225).
3. After filling in the address, click **OK**.

Repeat these steps for any additional IP address ranges you want to filter.

To add a MAC filter, do the following:

1. Click **Add**. A dialog box similar to the one below appears:



2. Specify the MAC address in the dialog box (for example, 001074670000), then click **OK**.

Repeat these steps for any additional MAC addresses you want to filter.

IP Filter / MAC Filter Conflict

If there is a conflict between an IP and MAC filter — for example, where a computer's IP address is allowed by the IP filter but its MAC address is excluded by the MAC filter — then that computer's access is blocked.

In other words, if either filter blocks a computer, then the computer is blocked, no matter what the other filter is set to.

Modifying Filters

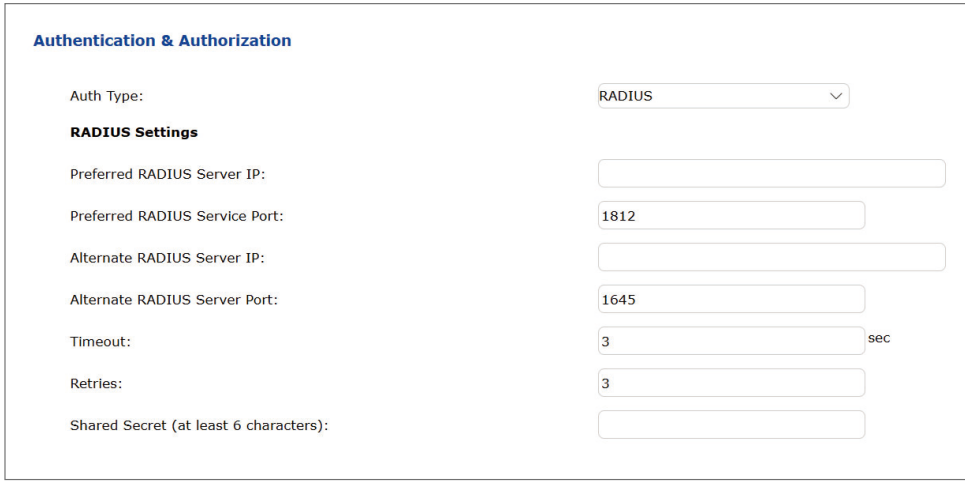
To modify a filter, select it in the IP Filter or MAC Filter list box and click **Modify**. The Modify dialog box is similar to the Add dialog box. When it comes up, simply delete the old address(es) and replace it with the new one(s).

Deleting Filters

To delete a filter, select it in the IP Filter or MAC Filter list box and click **Delete**.

Authentication & Authorization

The Authentication & Authorization field is used to set up login authentication and authorization management from external sources.



■ RADIUS Settings

To allow authentication and authorization for the eco PDU device through a RADIUS server, do the following:

1. Check **Enable**.

2. Fill in the IP addresses and service port numbers for the Preferred and Alternate RADIUS servers. The default port number for the Preferred server is 1812; the default port number for the Alternate server is 1645.

   Note: Make sure that the port numbers you specify here match the port numbers used by the RADIUS servers.

3. In the *Timeout* field, set the time in seconds that the eco PDU device shall wait for the RADIUS server to reply before it times out.
4. In the *Retries* field, set the number of allowed retries for attempting to connect to the RADIUS server.
5. In the *Shared Secret* field, key in the character string that you want to use for authentication between the eco PDU device and the RADIUS Server.
6. On the RADIUS server, set the entry for each user as follows:

   `su/xxxx`

   Where *xxxx* represents the username given to the user when the account was created on the eco PDU device. The user's access rights equivalent to the ones assigned for the eco PDU device. (See *Device Configuration*, page 55.)

Note: `su/user` supports view ports only; su/administrator supports all eco PDU functions.

- **LDAP Settings**

To allow authentication and authorization for the eco PDU device through a LDAP server, do the following:

1. Use the drop-down menu and select **LDAP**.
2. Select a Type of LDAP Server and Security option and fill in the IP addresses/hostname, port numbers, Bind DN, Password, Login Name Attribute, Base DN, User entry object class, and Login Attribute for the LDAP servers. The default port number is 389.

   Note: Make sure that the port numbers you specify here match the port numbers used by the LDAP servers.

3. In the *Timeout* field, set the time in seconds that the eco PDU device shall wait for the LDAP server to reply before it times out. The default timeout is 3 seconds.

4. On the LDAP server, set the entry for each user as follows:

   `su/xxxx`

   Where *xxxx* represents the username given to the user when the account was created on the eco PDU device. The user's access rights equivalent to the ones assigned for the eco PDU device. (See *Device Configuration*, page 55.)

Note: `su/user` supports view ports only; su/administrator supports all eco PDU functions.

- **TACACS+ Settings**

To allow authentication and authorization for the eco PDU device through a TACACS+ server, do the following:

1. Use the drop-down menu and select **TACACS+**.
2. Fill in the IP addresses and service port numbers for the Preferred and Alternate TACACS+ servers. The default port number for the Preferred server is 49; the default port number for the Alternate server is 49.

   Note: Make sure that the port numbers you specify here match the port numbers used by the TACACS+ servers.

3. In the *Timeout* field, set the time in seconds that the eco PDU device shall wait for the TACACS+ server to reply before it times out. The default timeout is 3 seconds.
4. In the *Retries* field, set the number of allowed retries for attempting to connect to the TACACS+ server. The default retries is 3 times.
5. In the *Shared Secret* field, key in the character string that you want to use for authentication between the eco PDU device and the TACACS+ Server.
6. On the TACACS+ server, set the entry for each user as follows:

   `su/xxxx`

   Where *xxxx* represents the username given to the user when the account was created on the eco PDU device. The user's access rights equivalent to the ones assigned for the eco PDU device.

Note: `su/user` supports view ports only; su/administrator supports all eco PDU functions.

Private Certificate

When logging in over a secure (SSL) connection, a signed certificate is used to verify that the user is logging in to the intended site. For enhanced security, the *Private Certificate* section allows you to use your own private encryption key and signed certificate, rather than the default ATEN certificate.

There are two methods for establishing your private certificate: generating a self-signed certificate or importing a third-party certificate authority (CA) signed certificate.

■ Generating a Self-Signed Certificate

If you wish to create your own self-signed certificate, a free utility — openssl.exe — is available for download over the web.

■ Obtaining a CA Signed SSL Server Certificate

For better ensured security, we recommend using a third-party certificate authority (CA) signed certificate. To obtain a third-party signed certificate, go to a CA (Certificate Authority) website to apply for an SSL certificate. After the CA sends you the certificate and private encryption key, save them to a convenient location on your computer.

■ Importing the Private Certificate

To import the private certificate, do the following:

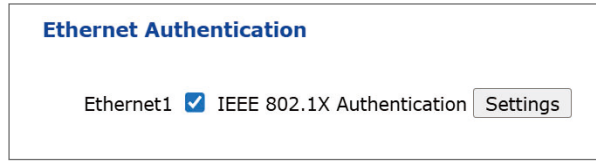
1. Click **Browse** to the right of *Private Key* to locate the location path of the private encryption key file, and select it.
2. Click **Browse** to the right of *Certificate* to locate the location path of the certificate file, and select it.
3. Click **Upload** to complete the procedure.

Note: 1. Clicking **Restore Default** returns the device to using the default ATEN certificate.

2. Both the private encryption key and the signed certificate must be imported at the same time.

When you have finished making your settings on this page, click **Save**.

Ethernet Authentication



This feature enables IEEE 802.1X authentication on the PDU's Ethernet interface. It provides port-based network access control, ensuring that only authorized users or devices can connect to the network.
When enabled, you can configure:

- Authentication Method (e.g., EAP-TTLS)
- CA Certificate for server verification
- Inner Authentication (e.g., MSCHAPv2)
- User Name and Password for identity verification

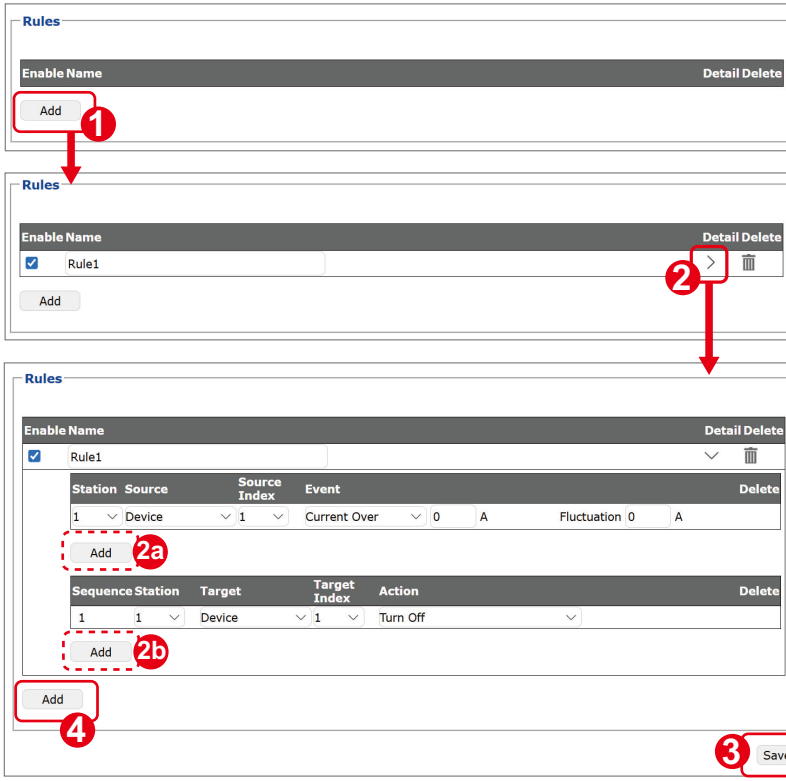
This helps secure network communication and prevents unauthorized access to the PDU.

Rules

The Rules page allows you to manage and set rules for the eco PDU in your installation.

Add a New Rule

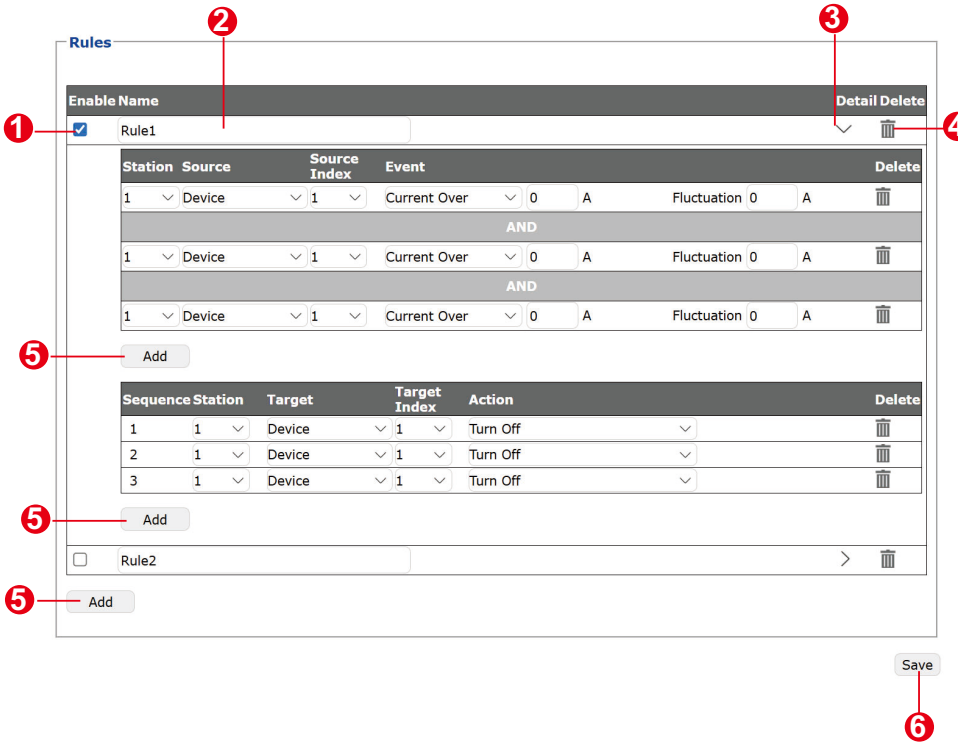
To add a new rule, do the following:



1. Click on the *Add* button to continue.
2. Click the Detail button to expand the fields to specify the rule.
   a) To add more station, click *Add*.
   b) To add more sequence, click *Add*.
3. Click on the Save button to finish.
4. To add more rules, repeat the aforementioned steps.

Edit the Rules

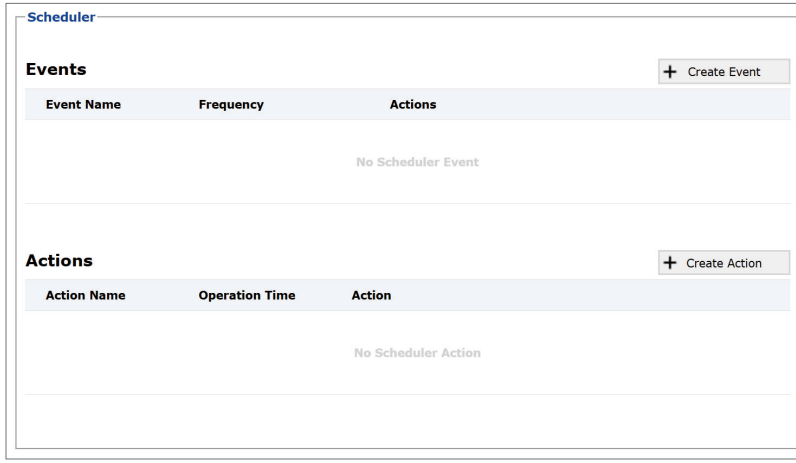
You can edit the rules using the elements:



No.	Item	Description
1	Enable	Check to enable the rule you configured for your eco PDU.
2	Name	Enter the name for the rules.
3	Detail	Click to bring up more options to configure the rules.
4	Delete	Click the bin icon to remove the rules.
5	Add	Click to add more Station Source, Sequence Station, or Rules.
6	Save	Click to save the changes you just made.

Scheduler

Use the *Scheduler* page to power on, power off, or reboot the eco PDU.

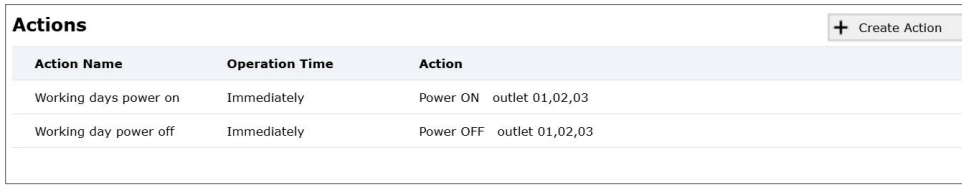


Creating an Event

To create an event, do the following:

1. Go to Setup > Scheduler.
2. Create one or more power-on, power-off, and/or reboot actions. These actions will be selectable when configuring an event.
   a) Click +Create Action.
   b) In the pop-up screen, name the action, and use the drop-down lists to configure the action and the target outlet(s).

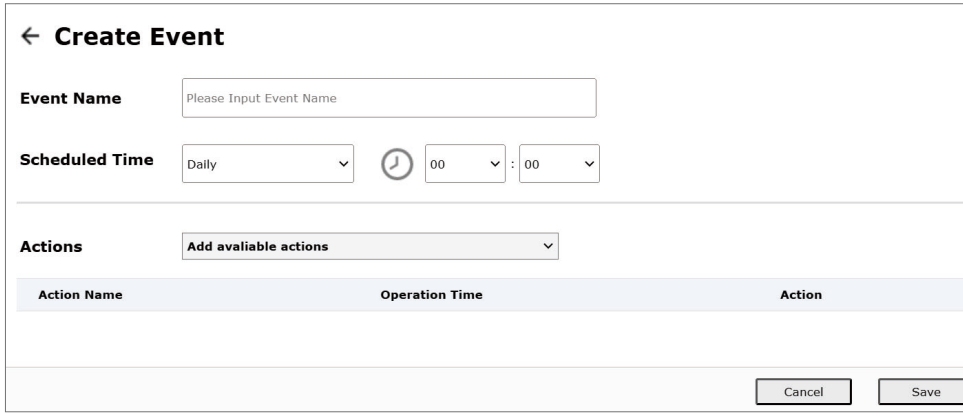
c) Click Save. The action is added to the list.



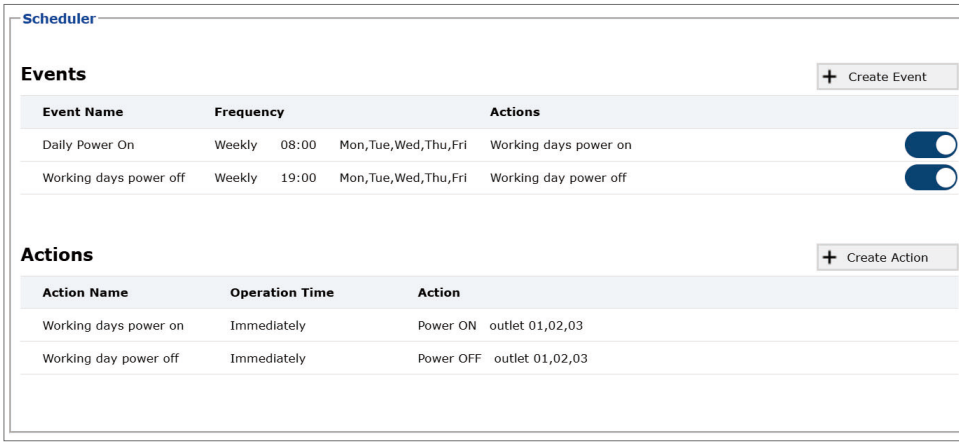
3. Create an event.

a) Click +Create Event.

b) In the pop-up screen, name the event, and then configure the schedule and action as needed.

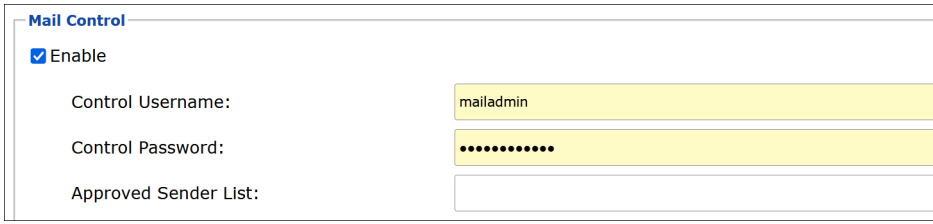


c) Click Save. The event is added to the event list. Use the toggle button to enable/disable created events.


Scheduler
Events
Create Event
Event Name
Frequency
Actions
Daily Power On
Weekly 08:00 Mon,Tue,Wed,Thu,Fri
Working days power on
Working days power off
Weekly 19:00 Mon,Tue,Wed,Thu,Fri
Working day power off
Actions
Create Action
Action Name
Operation Time
Action
Working days power on
Immediately
Power ON outlet 01,02,03
Working day power off
Immediately
Power OFF outlet 01,02,03

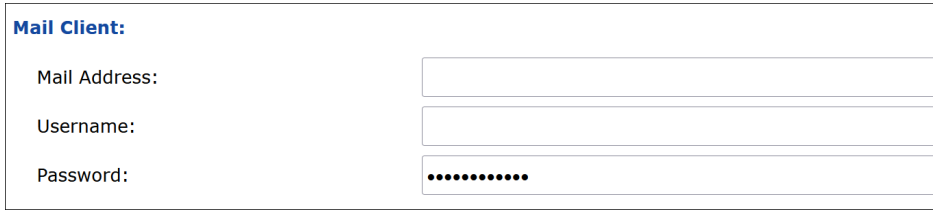
Mail Control

Mail Control is to send the CLI commands by email to control the eco PDU Power Controller. The default setting is disabled.



Item	Description
Enable	Check the checkbox to enable mail control function.
Control Username	Define the username to perform mail control function. This field is required.
Control Password	Set the password of **Control Username**. This field is required.
Approved Sender List	Enter the email address(es) that is allowed to send commands through email to control the eco PDU Power Controller. To add multiple senders, use a comma to separate email addresses. Please note that a space character is not accepted in the entry. Do not enter space characters between email address and comma.

Mail Client



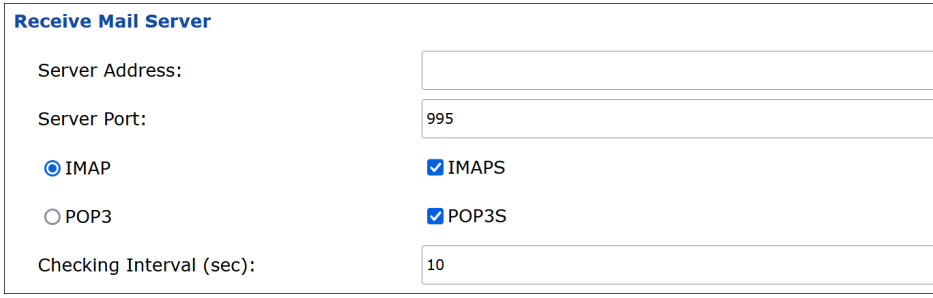
Mail Client is to set the email address that receives the commands from the approved sender(s) and sends the notification emails to the recipients on *Approved Sender List*.

Item	Description
Mail Address	Enter the address of the email account that you'd like to use to send the notification emails and receive the email(s) whose content contains commands to control the eco PDU Power Controller.

Item	Description
Username / Password	Enter the login credentials in your email client.

Receive Mail Server

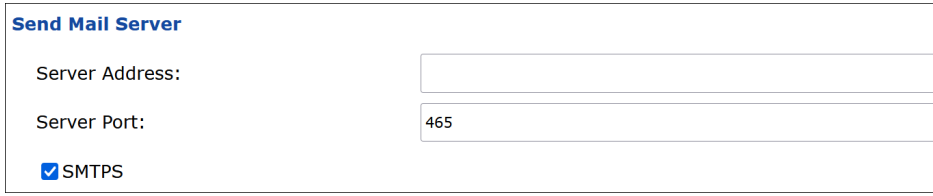
Fill in the following information to define your mail server of the email account that you set to receive the command email(s).



Item	Description
Server Address	Enter server address of the email provider that you use to retrieve the command email(s) from the mail server.
Server Port	Enter the port number that your email server uses.
IMAP / POP3	Click the radio button to select the protocol (methods) used for accessing emails. The options are **IMAP** and **POP3**. To encrypt and secure the incoming mails, enable the checkbox of **IMAPS** / **POP3S** after selecting **IMAP** or **POP3** as the protocol.
Checking Interval (sec)	Set the time you'd like to check for new incoming mails automatically.

Send Mail Server

Specify the information about your outgoing email server.



Item	Description
Server Address	Enter the outgoing email server address of your email provider.
Server Port	Enter the port number that your email server uses.
STMPS	Enable the checkbox to encrypt and secure the outgoing emails.

Commands Sent by Email

Once the Mail Control configurations are done, you are able to control the eco PDU Power Controller through email(s) sent from the email address(es) on Approved Sender List.

The command script must be one command per line, starts with the control username and control password, and end with the command “end”.

The following is an example of email content for mail control:

```
mailadmin
mailpwd
sw o01 on
sw o02 on
sw o03 on
sw o04 on
end
```

In this example, “mailadmin” stands for the control username while “mailpwd” is the control password. Please input your control username and control password in your command script. “End” in the last line indicates that the command script ends. For more commands that controls the eco PDU Power Controller, see *Commands*, page 67.

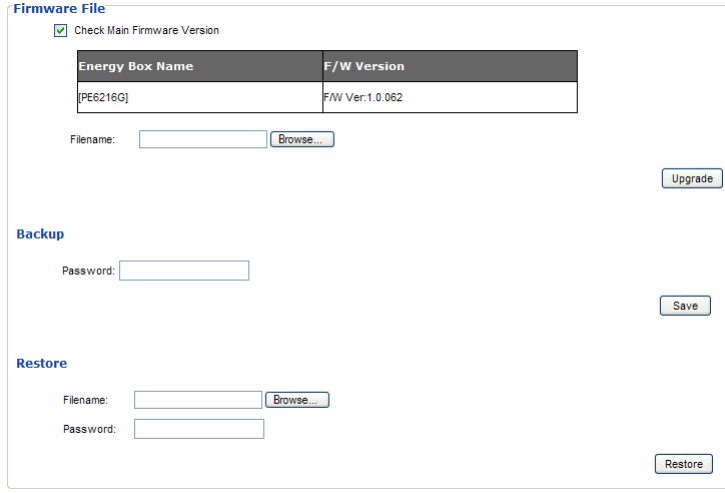
Chapter 9
PDU

PDU

The *PDU* function is used to upgrade the eco PDU's firmware, and to backup and restore the device's configuration settings.

Firmware File

Clicking the **PDU** tab brings up the *Upgrade Main Firmware* menu page, which looks similar to the one below:



A description of the items shown in this panel are given in the table below:

Item	Description
Check Main Firmware Version	If you enable *Check Main Firmware Version*, the eco PDU's current firmware compared with that of the upgrade file. If the current version is equal to or higher than the upgrade version, a popup message appears, to inform you of the situation and stops the upgrade procedure.
Name	Lists all of the eco PDU devices. Check the checkboxes of the devices for which you want to upgrade.
F/W Version	Displays the eco PDU's current firmware version.
Filename	As new versions of the firmware become available, they are posted onto our website for users to download. Click the *Browse* button to select the downloaded upgrade file.
Upgrade	Click this button to upgrade the firmware of the selected devices.

Upgrading the Firmware

To upgrade the firmware, refer to the UI snapshot on the preceding page, and do the following:

1. Go to our website and download the firmware upgrade file to a convenient location on your computer.
2. Click the *Browse* button to locate and select the downloaded firmware upgrade file.
3. Click **Upgrade** to start the upgrade procedure.
   - If you enabled *Check Main Firmware Version,* the current firmware is compared with that of the upgrade file. If the current version is equal to or higher than the upgrade version, a popup message appears, to inform you of the situation and stops the upgrade procedure.
   - If you didn't enable *Check Main Firmware Version*, the upgrade file is installed without comparing.
   - Once the upgrade completes successfully, the switch restarts automatically.
4. Log in again, and check the firmware version to be sure it is the new one.

■ Firmware Upgrade Recovery

Should the eco PDU's firmware upgrade procedure fail, and the device becomes unusable, the following firmware upgrade recovery procedure will resolve the problem:

1. Power off the device.
2. Press and hold the Reset Switch in (see page 10).
3. While holding the Reset Switch in, power the switch back on.

This causes the switch to use the original factory installed main firmware version. Once the switch is operational, you can try upgrading the firmware again.

Backup

To backup the device's settings, do the following:

1. In the *Password* field, key in a password for the setting file to be backed up.

   Note: Entering a password is optional. If you do enter a password, make a note of it, since you will need it to be able to restore the file.

2. Click **Save**.
3. When the browser asks what you want to do with the file, select *Save to disk*; then save it in a convenient location.

Restore

To restore a previous backup, do the following:

1. Click **Browse**, navigate to the file and select it.

   Note: If you have renamed the file, you can leave the new name as is. There is no need to return it to its original name.

2. In the *Password* field, key in the same password that you used to save the file.

   Note: If you did not set a password when you created the backup file, you can omit this step.

3. Select as many of the options presented as you wish to restore.
4. Click **Restore**.

   After the file is restored, a message appears to inform you that the procedure has completed successfully.

Appendix

Safety Instructions

General

- This product is for indoor use only.
- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- The equipment should be installed near the wall socket outlet and the disconnect device (appliance coupler on detachable power supply cord or plug on non-detachable power supply cord) should be readily accessible.

- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- When connecting or disconnecting power to hot pluggable power supplies, observe the following guidelines:
  - Install the power supply before connecting the power cable to the power supply.
  - Unplug the power cable before removing the power supply.
  - If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- Do not connect the RJ-11 connector marked “Sensor” to a public telecommunication network.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer
- Do not step on or stand on any device when servicing other devices in a rack.

The eco PDU's Main Power Cord

Use the power cord supplied with this package. If it becomes necessary to replace the cord supplied with this package, be sure to use a cord of at least the same standard as the one provided.

Securing the Power Cables

To secure the cables in the eco PDU's power outlets, use only the ATEN Lock-Your-Plug cable holders that have been specifically designed to work with the eco PDU. Using any other kind of cable securing device could be highly dangerous. Please contact your ATEN dealer for information about ATEN Lock-Your-Plugs.

Resetting the Circuit Breaker

Before switching the circuit breaker to reset a trip, power down and disconnect all devices connected to the eco PDU's power outlets to prevent damage caused by a sudden power surge. If a power surge causes the eco PDU's circuit breaker to switch off the power and it needs to be reset, follow the instructions below.

Recovery Procedure:

1. Safely power down and disconnect all devices connected to the eco PDU's power outlets.
2. Switch off the circuit breaker for the source that is providing power to the eco PDU.
3. Switch the eco PDU's circuit breaker to reset the trip.
4. Switch on the circuit breaker for the source that is providing power to the eco PDU.
5. Reconnect the devices to the eco PDU's power outlets, and power them on.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://eservice.aten.com**
- For telephone support, see *Telephone Support* on page vi.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

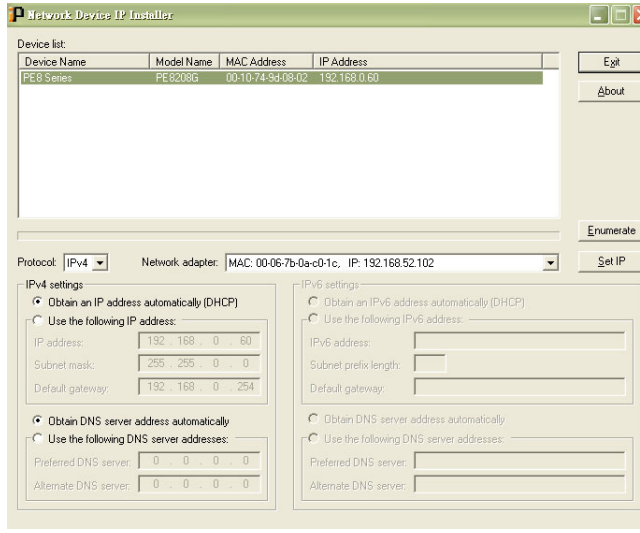
- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

IP Address Determination

If you are an administrator logging in for the first time, you need to access the eco PDU in order to give it an IP address that users can connect to. There are two methods to choose from. In each case, your client computer must be on the same network segment as the eco PDU. After you have connected and logged in, you can give the device a fixed network address. (See *Device Configuration*, page 55.)

Method 1:
For computers running Windows, an IP address can be determined and/or assigned with the IP Installer utility which can be obtained from the *Download* area of our website. Look under *Driver/SW*, and the model of your device. After downloading the utility to your computer, do the following:

1. Unzip the contents of *IPInstaller.zip* to a directory on your hard drive.
2. Go to the directory that you unzipped the IPInstaller program to and run *IPInstaller.exe*. A dialog box similar to the one below appears:



3. Select the device from the *Device List*.

Note: 1. If the list is empty, or your device doesn't appear, click **Enumerate** to refresh the Device List.

2. If there is more than one device in the list, use the MAC address to pick the one you want. The eco PDU's MAC address is located on its bottom panel.

4. Select either *Obtain an IP address automatically (DHCP)*, or *Specify an IP address*. If you chose the latter, fill the IP Address, Subnet Mask, and Gateway fields with the information appropriate to your network.
5. Click **Set IP**.
6. After the IP address shows up in the Device List, click **Exit** to end the program.

Method 2:

1. Set your computer's IP address to 192.168.0.*XXX*

   Where *XXX* represents any number or numbers except 60 (192.168.0.60 is the default address of the eco PDU).
2. Specify the device's default IP address (192.168.0.60) in your browser to access it.
3. Assign a fixed IP address for the device (see *IPv4 Configuration*, page 57), that is suitable for the network segment that it resides on.
4. After you log out, reset your computer's IP address to its original value.
5. Once you have logged in, go to Network Settings to set up the permanent IP environment (see *IPv4 Configuration*, page 57).

Method 3:
ATEN eco DC allows you to determine/assign an IP address in order to configure a PDU device and monitor power status of the equipment connected to it. ATEN eco DC can be obtained from the Support and Downloads tab of the ATEN website.

Specifications

There are 10 models in the PE7xxx / PE8xxx range. They are available in 16- and 24-port versions, with power inlet/cord variations. A basic comparison is shown in the table below.

Basic Comparison

Model	Inlet / Cord	Outlets		Metering Level	Outlet Switching
PE7216B	NEMA 6-20P	16	14 x IEC 60320 C13 + 2 x IEC 60320 C19	PDU / 1 x Bank / Outlet	No
PE8216B					Yes 16/16
PE7216G	IEC 60320 C20				No
PE8216G					Yes 16/16
PE7324B / J	NEMA L6-30P	24	21 x IEC 60320 C13 + 3 x IEC 60320 C19	PDU / 2 x Bank / Outlet	No
PE8324B / J					Yes 24/24
PE7324G	IEC 60309 32A				No
PE8324G					Yes 24/24
PE8324G2			6 x IEC 60320 C13 + 18 x IEC 60320 C19		
PE8324G3			18 x IEC 60320 C13 + 6 x IEC 60320 C19		

Note: The J models are identical to their B model counterparts but have power cords designed for the Japanese market.

PE7216B / PE8216B

Function			PE7216B	PE8216B
Power Outlets	Direct		16	
Connectors	Power Inlet		1 x NEMA 6-20P	
	Power Outlets	NEMA	NA	
		IEC	Total: 14 x IEC 60320 C13 + 2 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 7 x C13 + 1 x C19. Bank 1-2, Outlet 9–16: 7 x C13 + 1 x C19	
	Environment Sensors		4 x RJ-11 Female (Black)	
	Door Sensor		1 x 4-pin Dry Contact	
	LAN		1 x RJ-45 Female (Silver) + LEDs (Orange/Green)	
LEDs	Outlet Status		NA	16 (Orange)
	PDU / Bank / Outlet		2-digit 7-segment (Orange)	
	PDU / Bank / Outlet		3 (Green)	
	Current / Volt / P.D. / Sensor1–Sensor4 / FW Upgrade		3-digit 7-segment (Orange)	
	Current / Volt / P.D. / IP / Sensor1–Sensor4		7 (Green)	
	Door Open		1 (Red)	
	IP		1 (Green)	
	Power		1 (Blue)	
Switches	LED Display Select		1 x Pushbutton	
	PDU / Bank / Outlet Select		2 x Pushbutton	
	Reset		1 x Semi-recessed Pushbutton	
	Power		1 x 16 A Branch Breaker	
Nominal Input Power			100–240 V~; 50–60 Hz; 16 A (UL), 20 A (Max.)	
Power Capacity			4.16kW	
Nominal Output Power	Per Port	IEC 60320 C19	100–240 V~; 50–60 Hz; 16 A (UL), 20 A (Max.)	
		IEC 60320 C13	100–240 V~; 50–60 Hz; 12 A (UL), 15 A (Max.)	
	Total		100–240 V~; 50–60 Hz; 16 A (UL), 20 A (Max.)	

Environment	Operating Temperature	0–50 °C
	Storage Temperature	-20–60 °C
	Humidity	0–80% RH Non-condensing
Physical Properties	Housing	Metal
	Weight	3.80 kg
	Dimensions (L x W x H)	132.48 x 6.60 x 4.40 cm

PE7216G / PE8216G

Function			PE7216G	PE8216G
Power Outlets	Direct		16	
Connectors	Power Inlet		1 x IEC 60320 C20	
	Power Outlets	NEMA	NA	
		IEC	Total: 14 x IEC 60320 C13 + 2 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 7 x C13 + 1 x C19. Bank 1-2, Outlet 9–16: 7 x C13 + 1 x C19	
	Environment Sensors		4 x RJ-11 Female (Black)	
	Door Sensor		1 x 4-pin Dry Contact	
	LAN		1 x RJ-45 Female (Silver) + LEDs (Orange/Green)	
LEDs	Outlet Status		NA	16 (Orange)
	PDU / Bank / Outlet		2-digit 7-segment (Orange)	
	PDU / Bank / Outlet		3 (Green)	
	Current / Volt / P.D. / Sensor1–Sensor4 / FW Upgrade		3-digit 7-segment (Orange)	
	Current / Volt / P.D. / IP / Sensor1–Sensor4		7 (Green)	
	Door Open		1 (Red)	
	IP		1 (Green)	
	Power		1 (Blue)	
Switches	LED Display Select		1 x Pushbutton	
	PDU / Bank / Outlet Select		2 x Pushbutton	
	Reset		1 x Semi-recessed Pushbutton	
	Power		1 x Non-fuse Breaker	
Nominal Input Power			100–240 V~; 50–60 Hz; 16 A	
Power Capacity			4.60kW	
Nominal Output Power	Per Port	IEC 60320 C19	100–240 V~; 50–60 Hz; 15 A (TUV), 16 A (Max.)	
		IEC 60320 C13	100–240 V~; 50– 60 Hz; 10 A	
	Total		100–240 V~; 50–60 Hz; 15 A (TUV), 16 A (Max.)	

Environment	Operating Temperature	0–40 °C
	Storage Temperature	-20–60 °C
	Humidity	0–80% RH Non-condensing
Physical Properties	Housing	Metal
	Weight	3.8 kg
	Dimensions (L x W x H)	132.48 x 6.60 x 4.40 cm

PE7324B/J / PE8324B/J

Function			PE7324B / J	PE8324B / J
Power Outlets	Direct		24	
Connectors	Power Cord		1 x NEMA L6-30P	
	Power Outlets	IEC	Total: 21 x IEC 60320 C13 + 3 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 7 x C13 + 1 x C19. Bank 1-2, Outlet 9–16: 7 x C13 + 1 x C19 Bank 2, Outlet 17–24: 7 x C13 + 1 x C19	
	Environment Sensors		4 x RJ-11 Female (Black)	
	Door Sensor		1 x 4-pin Dry Contact	
	LAN		1 x RJ-45 Female (Silver) + LEDs (Orange/Green)	
LEDs	Outlet Status		NA	24 (Orange)
	PDU / Bank / Outlet		2-digit 7-segment (Orange)	
	PDU / Bank / Outlet		3 (Green)	
	Current / Volt / P.D. / Sensor1–Sensor4 / FW Upgrade		3-digit 7-segment (Orange)	
	Current / Volt / P.D. / IP / Sensor1–Sensor4		7 (Green)	
	Door Open		1 (Red)	
	IP		1 (Green)	
	Power		1 (Blue)	
Switches	LED Display Select		1 x Pushbutton	
	PDU / Bank / Outlet Select		2 x Pushbutton	
	Reset		1 x Semi-recessed Pushbutton	
	Power		2 x Branch Breaker	
Nominal Input Power			100–240 V~; 50–60 Hz; 24 A (UL), 30 A (Max.)	
Nominal Input/Output Voltage			200–240 VAC	
Power Capacity			6.24 kW	

Nominal Output Power	Per Port	IEC 60320 C19	100–240 V~; 50–60 Hz; 12 A (UL), 15 A (Max.)
		IEC 60320 C13	100–240 V~; 50–60 Hz; 12 A (UL), 15 A (Max.)
	Total		100–240 V~; 50–60 Hz; 24 A (UL), 30 A (Max.)
Environment	Operating Temperature		0–50 °C
	Storage Temperature		-20–60 °C
	Humidity		0–80% RH Non-condensing
Physical Properties	Housing		Metal
	Weight		6.5 kg
	Dimensions (L x W x H)		177.50 x 6.60 x 4.40 cm

PE7324G / PE8324G

Function			PE7324G	PE8324G
Power Outlets	Direct		24	
Connectors	Power Cord		1 x IEC 60309 32 A	
	Power Outlets	IEC	Total: 21 x IEC 60320 C13 + 3 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 7 x C13 + 1 x C19. Bank 1-2, Outlet 9–16: 7 x C13 + 1 x C19 Bank 2, Outlet 17–24: 7 x C13 + 1 x C19	
	Environment Sensors		4 x RJ-11 Female (Black)	
	Door Sensor		1 x 4-pin Dry Contact	
	LAN		1 x RJ-45 Female (Silver) + LEDs (Orange/Green)	
LEDs	Outlet Status		NA	24 (Orange)
	PDU / Bank / Outlet		2-digit 7-segment (Orange)	
	PDU / Bank / Outlet		3 (Green)	
	Current / Volt / P.D. / Sensor1–Sensor4 / FW Upgrade		3-digit 7-segment (Orange)	
	Current / Volt / P.D. / IP / Sensor1–Sensor4		7 (Green)	
	Door Open		1 (Red)	
	IP		1 (Green)	
	Power		1 (Blue)	
Switches	LED Display Select		1 x Pushbutton	
	PDU / Bank / Outlet Select		2 x Pushbutton	
	Reset		1 x Semi-recessed Pushbutton	
	Power		2 x Non-fuse Breaker	
Nominal Input Power			100–240 V~; 50–60 Hz; 32 A	
Nominal Input/Output Voltage			200–240 VAC	
Power Capacity			7.36 kW	
Nominal Output Power	Per Port	IEC 60320 C19	100–240 V~; 50–60 Hz; 15 A (TUV), 16 A (Max.)	
		IEC 60320 C13	100–240 V~; 50–60 Hz; 10 A	
	Total		100–240 V~; 50–60 Hz; 30 A (TUV), 32 A (Max.)	

Environment	Operating Temperature	0–40 °C
	Storage Temperature	-20–60 °C
	Humidity	0–80% RH Non-condensing
Physical Properties	Housing	Metal
	Weight	6.5 kg
	Dimensions (L x W x H)	177.50 x 6.60 x 4.40 cm

Note:
The PE8324G model is available in different suffix versions:

- **-AX**: standard version
- **-AT**: alternative version with 1.6 m power cord
- **-AKA**: alternative version with 3 m power cord

PE8324G2 / PE8324G3

Function			PE8324G2	PE8324G3
Power Outlets	Direct		24	
Connectors	Power Cord		1 x IEC 60309 32 A	
	Power Outlets	IEC	Total: 6 x IEC 60320 C13 + 18 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 2 x C13 + 6 x C19. Bank 1-2, Outlet 9–16: 2 x C13 + 6 x C19 Bank 2, Outlet 17–24: 2 x C13 + 6 x C19	Total: 18 x IEC 60320 C13 + 6 x IEC 60320 C19 Bank 1-1, Outlet 1–8: 6 x C13 + 2 x C19. Bank 1-2, Outlet 9–16: 6 x C13 + 2 x C19 Bank 2, Outlet 17–24: 6 x C13 + 2 x C19
	Environment Sensors		4 x RJ-11 Female (Black)	
	Door Sensor		1 x 4-pin Dry Contact	
	LAN		1 x RJ-45 Female (Silver) + LEDs (Orange/Green)	
LEDs	Outlet Status		24 (Orange)	
	PDU / Bank / Outlet		2-digit 7-segment (Orange)	
	PDU / Bank / Outlet		2 (Green)	
	Current / Volt / P.D. / Sensor1–Sensor4 / FW Upgrade		3-digit 7-segment (Orange)	
	Current / Volt / P.D. / IP / Sensor1–Sensor4		7 (Green)	
	Door Open		1 (Red)	
	IP		1 (Green)	
	Power		1 (Blue)	
Switches	LED Display Select		1 x Pushbutton	
	PDU / Bank / Outlet Select		2 x Pushbutton	
	Reset		1 x Semi-recessed Pushbutton	
	Power		2 x Non-fuse Breaker	
Nominal Input Power			100 – 240 V; 50 – 60 Hz; 32 A	
Nominal Input/Output Voltage			100 – 240 V AC	

Power Capacity			7.36 kW
Nominal Output Power	Per Port	IEC 60320 C19	100 – 240 V~; 50 – 60 Hz; 15 A (TUV), 16 A (Max.)
		IEC 60320 C13	100 – 240 V~; 50 – 60 Hz; 10 A (Max.)
	Total		100 – 240 V~; 50 – 60 Hz; 30 A (TUV), 32 A (Max.)
Environment	Operating Temperature		0 – 40 °C
	Storage Temperature		-20 – 60 °C
	Humidity		0–80% RH Non-condensing
Physical Properties	Housing		Metal
	Weight		6.5 kg
	Dimensions (L x W x H)		177.5 x 6.60 x 4.40 cm

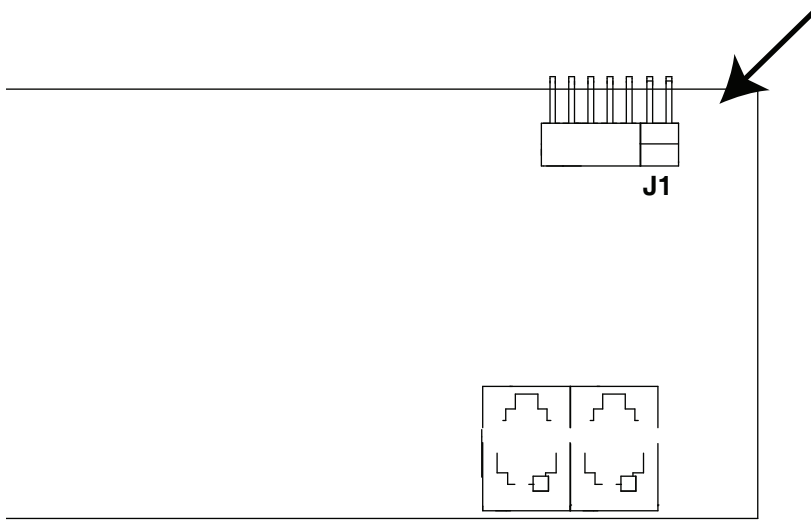
Note:
The PE8324G2 and PE8324G3 models are available in suffix versions:

- **-AX**: standard version
- **-AT**: alternative version with 1.6 m power cord

Administrator Login Failure

If you are unable to perform an administrator login (because the username and password information has become corrupted, or you have forgotten it, for example), you can clear the login information with the following procedure:

1. Power off the eco PDU and remove its housing.
2. Short the jumper labeled J1 (PIN5 and PIN6).



3. Power on the eco PDU.
4. After the beep indicates successfully powered on, power off the switch.
5. Remove the jumper cap from J1.
6. Close the housing and start the eco PDU.

   After you start, you can use the default username and password to log in.

ATEN Warranty Policy

The warranty policy may vary by product category and region of purchase. For details, please visit ATEN's official website, select your purchase counties/ regions and then go to the Support Center, or contact your local ATEN sales representative for further assistance.

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