



**PE6108AV / PE6208AV / PE8208AV**  
**8-Outlets eco PDU**  
**User Manual**



## EMC Information

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**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.

### KCC Statement

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## RoHS

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This product is RoHS compliant.



## User Information

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### Online Registration

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

International	<a href="http://eservice.aten.com">http://eservice.aten.com</a>
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### 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.

If any bodily injury or property damage with respect to operation of the product results from users not having installed the product in accordance with the instructions provided in the product's user manual, or the product is used in an environment with a current load over the designed specifications of the product, ATEN is not liable for any loss or damage.

## **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 Device.
- ◆ There is a risk of explosion if the battery is replaced with an incorrect type. Dispose of used batteries according to the relevant instructions.

## **Consignes de sécurité relatives à l'unité PE**



- ◆ Installez sur le circuit du bâtiment des disjoncteurs permettant d'assurer la protection maximale autorisée, en respectant le courant nominal spécifié sur la plaque signalétique. Veuillez respecter l'ensemble des réglementations nationales en vigueur et des codes de sécurité ainsi que les déviations recommandées pour les disjoncteurs.
- ◆ Ne connectez l'unité PE qu'à une prise de courant avec borne de terre ou à un système mis à la terre!
- ◆ Assurez-vous que le courant d'entrée total des systèmes connectés ne dépasse pas le courant nominal spécifié sur la plaque signalétique de l'unité PE.
- ◆ Il existe un risque d'explosion si la batterie est remplacée par une batterie de type incorrect. Jetez les batteries usagées en respectant les instructions adéquates.

## Package Contents

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The eco PDU PE6108AV/6208AV Series package consists of:

- ◆ 1 PE6108AVA/PE6208AVA/PE6208AVB/PE6208AVG/PE6208AVX Power Distribution Unit
- ◆ 1 Power Cord (not available for PE6208AVX)
- ◆ 1 RJ-45 Cable
- ◆ 10 Cable Ties (only for J plug)
- ◆ 1 Footpad Set
- ◆ 1 Mounting Kit
- ◆ 1 User Instructions\*

The eco PDU PE8208AV Series package consists of:

- ◆ 1 PE8208AV Power Distribution Unit
- ◆ 1 Power Cord
- ◆ 1 RJ-45 Cable
- ◆ 4 Cable Ties
- ◆ 1 Footpad Set
- ◆ 1 Mounting Kit
- ◆ 1 User Instructions\*

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the switch or to any other devices on the eco PDU installation.

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\* Features may have been added to the eco PDU since this manual was published. Please visit our website to download the most up-to-date version.

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# Contents

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EMC Information . . . . .	ii
RoHS . . . . .	ii
User Information . . . . .	iii
Online Registration . . . . .	iii
Telephone Support . . . . .	iii
User Notice . . . . .	iii
PE Device Safety Notice . . . . .	iv
Consignes de sécurité relatives à l'unité PE . . . . .	iv
Package Contents . . . . .	v
Contents . . . . .	vi
About This Manual . . . . .	ix
Conventions . . . . .	x
Product Information . . . . .	x

## **Chapter 1. Introduction**

Overview . . . . .	1
Features . . . . .	3
Connections . . . . .	3
Metering . . . . .	3
Outlet Switch Control . . . . .	3
Requirements . . . . .	4
Optional Accessories . . . . .	5
Sensors . . . . .	5
Cable Holders . . . . .	5
Components . . . . .	6
PE6108AV / PE6208AV / PE8208AV Front View . . . . .	6
PE6108AV / PE6208AV / PE8208AV Rear View (exclude PE6208AVX) . . . . .	8
PE6208AVX Rear View . . . . .	9

## **Chapter 2. Hardware Setup**

Before You Begin . . . . .	11
Stacking and Rack Mounting . . . . .	11
Stacking . . . . .	11
Rack Mounting . . . . .	13
Power Cord Installation (PE6208AVX) . . . . .	15
Before Installation . . . . .	15
Cord Selection . . . . .	15
Plug Selection . . . . .	15
Installation . . . . .	16
Installation . . . . .	19
Securing the Cables . . . . .	21
Securing the Sensors . . . . .	22

## **Chapter 3. Basic Operation and**

## First Time Setup

Operation Methods .....	23
Browser .....	23
eco Sensors .....	23
SNMP .....	23
First Time Setup .....	24
Network Configuration .....	25
Changing the Administrator Login .....	26
Moving On .....	26

## Chapter 4. Browser Operation

Logging In .....	27
The eco PDU Main Page .....	28
Page Components .....	28
Energy .....	30
Connections .....	30
Configuration (PE6208AV) .....	34
Configuration (PE8208AV) .....	36
User .....	42
Administrator Information .....	42
User Information .....	43
Log .....	45
The System Log Event List .....	45
Notification Settings .....	46
Setup .....	47
Device Configuration .....	47
Date/Time .....	53
Security .....	55
Login Failures .....	55
Working Mode .....	55
Session Timeout .....	55
Account Policy .....	56
Login String / IP Filter / Mac Filter .....	57
Authentication & Authorization .....	60
Private Certificate .....	61
PDU .....	63
Firmware File .....	63
Backup/Restore .....	65

## Chapter 5. RS-232 / Telnet Commands

Remote Terminal Operations .....	67
Telnet .....	67
RS-232 Serial Control .....	69
Commands .....	70
Verification .....	70
Read Outlet Status .....	71

Switch Outlet Status . . . . .	73
Read Power Value . . . . .	75
Read Environmental Value . . . . .	77
Close Telnet Session . . . . .	78
Safety Instructions . . . . .	79
General . . . . .	79
Consignes de sécurité . . . . .	82
Général . . . . .	82
Rack Mounting . . . . .	85
The eco PDU's Main Power Cord . . . . .	85
Securing the Power Cables. . . . .	85
Montage sur bâti . . . . .	86
Le cordon d'alimentation principale de l'unité d'alimentation éco . . . . .	86
Fixation des câbles d'alimentation . . . . .	86
Technical Support. . . . .	88
International . . . . .	88
North America . . . . .	88
IP Address Determination. . . . .	89
Specifications . . . . .	91
PE6108AVA . . . . .	91
PE6208AVA / PE6208AVB / PE6208AVG / PE6208AVX. . . . .	93
PE6208AVJ Japan . . . . .	95
PE8208AVB / PE8208AVG. . . . .	97
PE8208AVJ Japan . . . . .	98
Administrator Login Failure. . . . .	100
Limited Warranty. . . . .	101



## About This Manual

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This User Manual is provided to help you get the most from your eco PDU system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

**Chapter 1, *Introduction***, introduces you to the eco PDU system. Its 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.

**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, *Browser Operation***, describes how to log in to the eco PDU with an Internet browser, and explains the layout and components of the eco PDU's user interface.

**Chapter 5, *Telnet Access***, describes how to connect to and access the eco PDU's using Telnet.

**An Appendix**, provides specifications and other technical information regarding the eco PDU.

## **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 <b>Enter</b> 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 the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the <i>Start</i> menu, and then select <i>Run</i> .                         |
|  | Indicates critical information.  |

## **Product Information**

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

- ◆ International – <http://www.aten.com>
- ◆ North America – <http://www.aten-usa.com>

# Chapter 1

## Introduction

### Overview

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ATEN has developed a new generation of green energy power distribution units (PDUs) to effectively increase the efficiency of data center power usage. The NRGence PE6108AV / PE6208AV / PE8208AV eco PDUs are intelligent PDUs that contain 8 AC outlets with a detachable front panel for convenient rack mounting and are available in various IEC or NEMA socket configurations.

They provide secure, centralized, intelligent, power management (power on, off, cycle) of 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\*. The basic characteristics of each model are shown in the table on page 3.

NRGence eco PDUs offer remote power control combined with real-time power measurement - allowing you to control and monitor the power status of devices attached to the PDUs, either at the PDU and outlet level (PE8208AV) or Bank level (PE6208AV), from practically any location via a TCP/IP connection.

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 when used with the eco Sensors software which can separate departments and locations, providing precise measurements of current, voltage, power and watt-hour in a real-time display.

Installation and operation is fast and easy: plugging cables into their appropriate ports and user-friendly browser-based configuration and management is all that is entailed. Since the eco PDU firmware is upgradeable over the Net, you can stay current with the latest functionality improvements simply by downloading updates from our website as they become available.

NRGence eco PDU supports any 3rd party v3 SNMP Manager Software and NRGence eco Sensors (eco PDU Manager Software). NRGence eco Sensors provides you with an easy method for managing multiple devices, offering an intuitive and user-friendly Graphical User Interface that allows you to configure a PDU device and monitor power status of the equipment connected to it.

This series of ATEN eco PDUs have threshold alerts that can sound an alarm and send SNMP trap or e-mail alerts when a threshold is exceeded. This feature provides a faster response time to recover servers and other devices when the outlets surpass thresholds set by you.

The PE6108AV / PE6208AV / PE8208AV is an excellent fit for any ATEN VanCryst Pro A/V or VK Control System installation. Using our cross platform solutions not only provide you with the best performance but also utilize extra features which bring you more confidence and more power to control.

With its advanced security features and ease of operation, the eco PDU is the most convenient, most reliable, and most cost effective way to remotely manage power access for multiple computer installations and allocate power resources in the most efficient way possible.

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**Note:** 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 5, for further information.

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## Features

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### Connections

- ◆ Space saving 1U rack mount design with rear mounting
- ◆ Detachable front panel for convenient rack mounting
- ◆ Support 10/100Mbit Ethernet Interface
- ◆ Support TCP/IP, UDP, HTTP, HTTPS, SSL, DHCP, SMTP, ARP, NTP, DNS, Auto Sense, Ping, SNMP V1, V2, and V3, Telnet
- ◆ Support 2-level account/password security, IP/MAC filter, 128 bit SSL, RADIUS
- ◆ Support: eco Sensors, Browser (IE, Firefox, Chrome, Safari)
- ◆ Additional functions available with ATEN VanCryst Pro A/V & VK Control System installations

### Metering

- ◆ Bank level power metering and monitoring (PE6208AV); or PDU and outlet level power metering and monitoring (PE8208AV)
- ◆ Environment monitoring – supports external temperature/ temperature & humidity sensors for rack temperature and humidity monitoring
- ◆ Current, voltage, power, power dissipation, temperature, and humidity metering and threshold level setting

### Outlet Switch Control

- ◆ Remote power outlet control (On/Off, Power Cycle) by individual outlets and outlet groups
- ◆ Outlet group support at the PDU level
- ◆ Supports multiple power control methods – Wake on LAN, System After AC Back, Kill the Power
- ◆ Power-On sequencing – users can set the power-on sequence and delay time for each outlet to allow equipment to be powered on in the correct order
- ◆ Local power on/off/reboot control via RS-232 port
- ◆ Proactive Overload Protection (POP) – automatically powers off outlets when current overloads to protect connected devices

## Requirements

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- ◆ Browsers accessing the eco PDU unit must support SSL 128 bit encryption.
- ◆ 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 (Windows 2000 or higher) or Linux.
  - ◆ The *Safe Shutdown* program (available by download from our website or on the software CD included), must be installed and running on the computer.

## Optional Accessories

### Sensors

Sensors are optional accessories. You can use the eco PDU unit without sensors. However, if you want to have complete energy management of an instrumented data center with the use of the eco PDU, you would need to use eco Sensors software and install 4 sensors for each of the racks to generate a complete energy-efficient data and chart. Higher sensor installation density is helpful to generate more accurate data. 8-port models have 2 sensor ports. In this case, Sensor 1 needs to be installed at the intake of the rack and sensor 2 needs to be placed at the exhaust of IT equipment of the rack. 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. Available sensors are show in the table, below:

Sensor	Part Number
Temperature	EA1140
Temperature / Humidity	EA1240
Differential Pressure / Temperature	EA1340

### Sensor Management

Sensors can be managed via the eco PDU's built-in graphical user interface (GUI) or with the NRGence eco Sensors software that can be downloaded from the ATEN website. The download link can be found on the software CD provided with the eco PDU package.

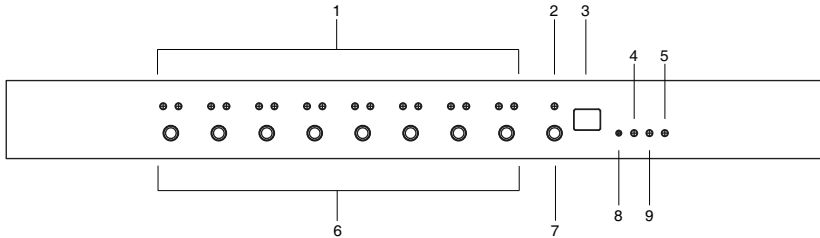
### Cable Holders

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 unit. Use only the ATEN Lok-U-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.

Part Number	Description
2X-EA07	Lok-U-Plug Cable Holder (10 pcs)
2X-EA08	Lok-U-Plug Installation Tool (4 pcs)

## Components

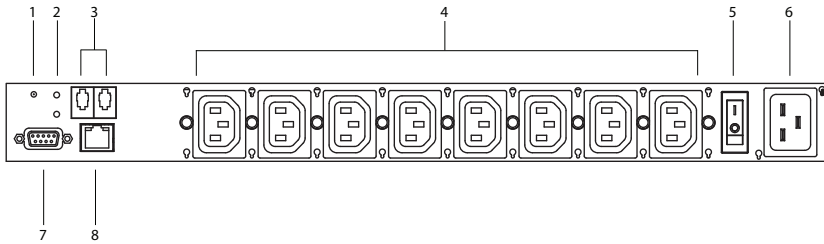
### PE6108AV / PE6208AV / PE8208AV Front View



No.	Item	Description
1	Port LED	<p>The Port LEDs provide status information about their corresponding AC outlet ports. There is one pair of LEDs for each port. The one on the left is the <i>Local</i> LED; the one on the right is the <i>Power</i> LED:</p> <ul style="list-style-type: none"> <li>◆ A <i>Local</i> LED lights GREEN to indicate that the device attached to its corresponding port is capable of being controlled locally via the Power Control Button. The Local Mode is enabled/disabled with the <i>Outlet Locked</i> check box in the web GUI.</li> <li>◆ A <i>Power</i> LED lights ORANGE to indicate that there is electricity going to its corresponding outlet. The LED flashes under the following conditions: <ul style="list-style-type: none"> <li>◆ If Modem Ring Resume is enabled (<b>see Modem Ring Resume*</b>, page 30), an outlet still receives electricity even when its corresponding computer has been powered OFF. The Power LED blinks OFF, then ON for 8 seconds, then OFF, then ON for 8 seconds, etc., to indicate this situation.</li> <li>◆ When a power status change is pending, the LED flashes until the change has taken place.</li> <li>◆ If both LEDs flash it indicates that there is either an overcurrent situation, or the relay has failed.</li> </ul> </li> </ul>
2	Current LED	Lights to indicate that the Current (in amps) is being displayed on the Status LED.

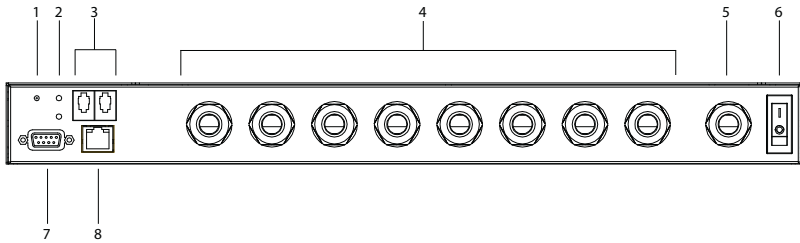


No.	Item	Description
3	Status LED	<p>The current (in amps), IP address or Holiday Mode status displays here. You can switch between the Current and IP status using the <i>Current / IP Switch</i> (see item 7, below).</p> <ul style="list-style-type: none"> <li>◆ When the Current status is displayed the Current LED (see above) lights RED.</li> <li>◆ When the IP status is selected, the unit's IP address (two digits of an octet at a time) will be shown, twice.</li> <li>◆ When Holiday Mode is enabled the Status LED displays <b>hd</b> (see <i>Holiday Mode</i>, page 41).</li> </ul>
4	10/100 Mbps Data LED	<ul style="list-style-type: none"> <li>◆ The LED lights ORANGE to indicate 10 Mbps data transmission speed.</li> <li>◆ The LED lights GREEN to indicate 100 Mbps data transmission speed.</li> </ul>
5	Power LED	Lights when the PDU is powered up and ready to operate.
6	Power Control Buttons	<p>Each button (1 to 8), controls the power status of its corresponding AC output port as follows:</p> <ul style="list-style-type: none"> <li>◆ Under Local Mode, pressing and holding the button in for more than 3 seconds switches the power to its corresponding port On or Off.</li> <li>◆ Pressing and holding button (1) in for more than 8 seconds sequentially reboots all outlets.</li> <li>◆ Pressing and holding button (8) in for more than 8 seconds enables/disables Holiday Mode (see <i>Holiday Mode</i>, page 41).</li> </ul>
7	Current / IP Switch	<p>Switches displaying the Current (in amps) – to displaying the IP address on the Status LED.</p> <ul style="list-style-type: none"> <li>◆ When pushed, the Status LED will display the unit's IP address (two digits of an octet at a time) twice and then switch back to displaying the Current.</li> </ul>
8	Reset Switch	Press and release to reboot the PDU. Pressing and holding this switch in for more than three seconds resets the PDU to its factory default settings. This switch is recessed and must be pushed with a thin object, such as the end of a paper clip, or a ballpoint pen.
9	Link LED	Lights GREEN to indicate that a connection via the PDU's RJ-45 Ethernet port has been established. Flashes to indicate that data is being transmitted.

**PE6108AV / PE6208AV / PE8208AV Rear View** (exclude PE6208AVX)

PE6208AVG rear view is used as the example above.

No.	Item	Description
1	Reset Switch	Press and release to reboot the PDU. This switch is recessed and must be pushed with a thin object, such as the end of a paper clip, or a ballpoint pen.
2	Sensor LEDs	Two Sensor LEDs light GREEN when a sensor is connected to the respective sensor port.
3	Sensor Ports	External sensors plug into these two RJ-11 ports.
4	Power Sockets	The power cables that connect to the computers plug in here.
5	Power Switch	This standard rocker switch powers the PE6108AV / PE6208AV / PE8208AV On and Off.
6	Power Socket	The power cable from the AC source plugs in here.
7	RS-232 Port	This port can be used to attach to a computer for local power on/off/reboot control.
8	LAN Port	The Cat 5e cable that connects the PE6108AV / PE6208AV / PE8208AV to the Internet plugs in here.

**PE6208AVX Rear View**

No.	Item	Description
1	Reset Switch	Press and release to reboot the PDU. This switch is recessed and must be pushed with a thin object, such as the end of a paper clip, or a ballpoint pen.
2	Sensor LEDs	Two Sensor LEDs light GREEN when a sensor is connected to the respective sensor port.
3	Sensor Ports	External sensors plug into these two RJ-11 ports.
4	Power Outlet Cable Glands	Connect power of computers here. Please refer to <i>Power Cord Installation (PE6208AVX)</i> on page 15.
5	Power Inlet Cable Gland	Connect AC source here. Please refer to <i>Power Cord Installation (PE6208AVX)</i> on page 15.
6	Power Switch	This standard rocker switch powers the PE6208AVX On and Off.
7	RS-232 Port	This port can be used to attach to a computer for local power on/off/reboot control.
8	LAN Port	The Cat 5e cable that connects the PE6208AVX to the Internet plugs in here.

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# Chapter 2

## Hardware Setup

### Before You Begin

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1. Important safety information regarding the placement of this device is provided on page 79. 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.



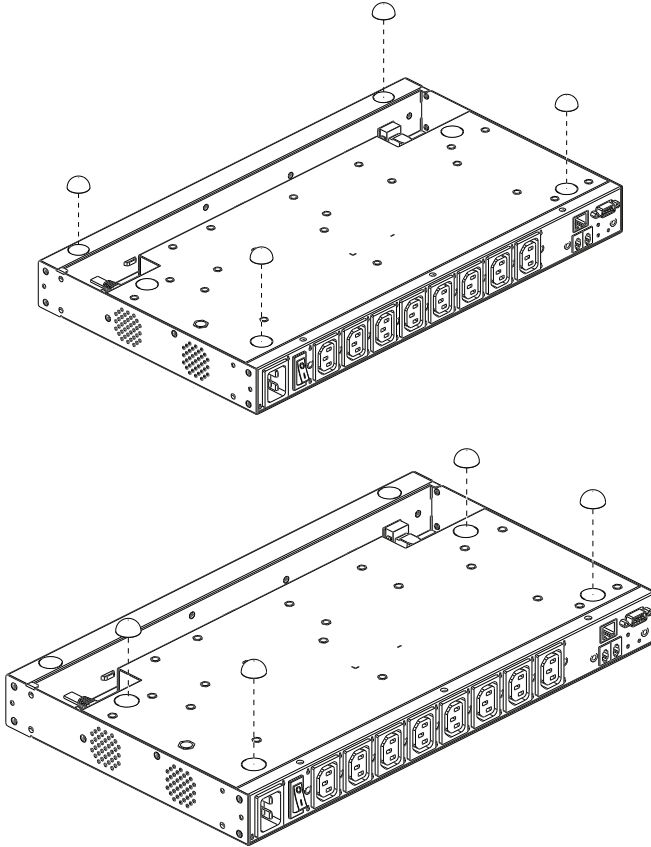
1. Vous trouverez des informations de sécurité importantes concernant le positionnement de l'unité à la page 79. Veuillez les lire attentivement avant d'aller plus loin.
2. Vérifiez que tous les périphériques à connecter sont éteints. Vous devez débrancher les câbles d'alimentation des ordinateurs disposant de la fonction de mise sous tension à partir du clavier.

### Stacking and Rack Mounting

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#### Stacking

The PE6108AV / PE6208AV / PE8208AV can be placed on any appropriate level surface that can safely support its weight plus the weight of its attached cables. To place or stack the PE6108AV / PE6208AV / PE8208AV, remove the backing material from the bottom of the rubber feet that came with this package, and stick them onto the switch's bottom panel at the corners, as shown in the diagrams, below:



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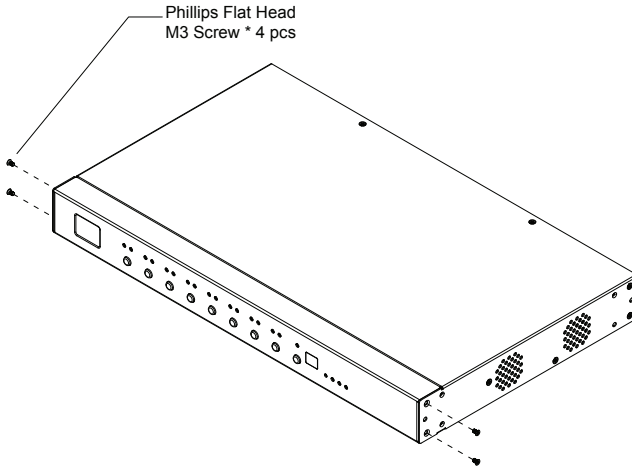
**Note:** To ensure adequate ventilation, allow at least 5.1 cm on each side, and 12.7cm at the back for power cord and cable clearance.

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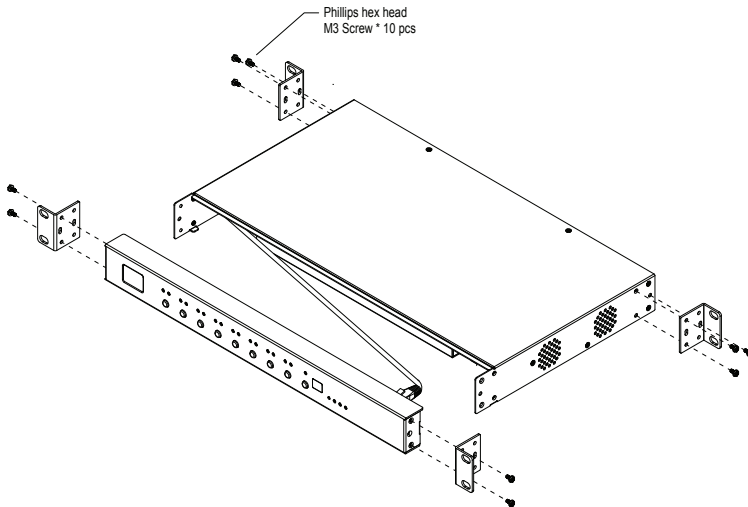
## Rack Mounting

The PE6108AV / PE6208AV / PE8208AV can be installed in most standard 19" (1U) racks. To rack mount the unit do the following:

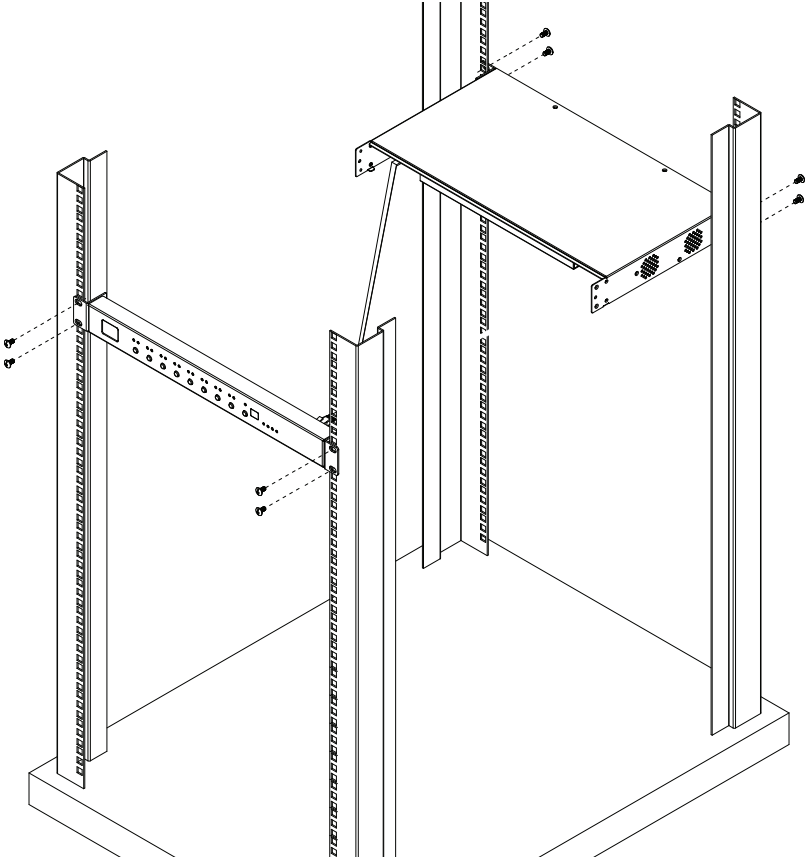
1. Separate the front and rear modules by removing the four module attaching screws:



2. Use the screws you just removed, and the ones supplied with the rack mounting kit to screw the rack mounting brackets into both modules:



3. There is an RJ-45 port on the front panel and rear module used to connect the two units. A standard Ethernet cable can be used to extend the front panel and rear module farther apart.
4. Position the device in the rack and align the holes in the mounting brackets with the hole in the rack.
5. Screw the mounting brackets to the rack.



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**Note:** Cage nuts are provided for racks that are not prethreaded.

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## **Power Cord Installation (PE6208AVX)**

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The PE6208AVX eco PDU provides terminal blocks that allow for custom power cord installation. Please read the following precautions before proceeding to the installation instructions.

### **Before Installation**

WARNING! Unless you are a licensed electrician, DO NOT perform wiring assembly for this product. Assembly or attempted assembly by unlicensed electricians may result in fire, personal injury, electrical shock, and death. If you are not a qualified electrician (having appropriate licensing and insurance) - STOP NOW. ATEN is not responsible for any damages to equipment or loss of data due to improper installation.

### **Cord Selection**

- ◆ The preferred cable is a flexible 3.0m long (max), 14 AWG cord, or a 1.5mm<sup>2</sup>, 3G flexible cord (e.g.: H05VV-F, 250V.), with a diameter of 7 - 10mm.
- ◆ The rated ampacity of the power cord must be greater than or equal to the product's rated ampacity marked on its nameplate.
- ◆ The number of wires in the power cord must match the number of terminals (including the ground terminal).
- ◆ The power cord may be permanently connected to the power supply subject to local regulatory agency approval.

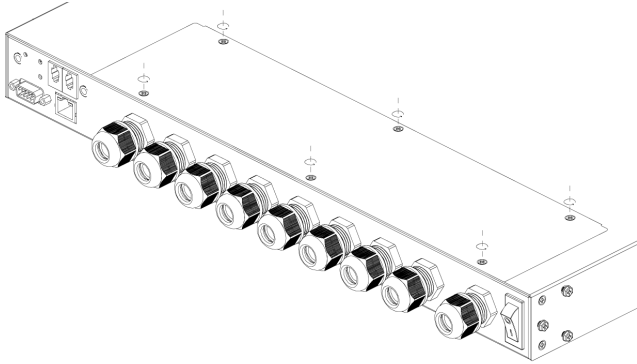
### **Plug Selection**

- ◆ If a plug is to be attached to the power cord, the plug chosen should be 250V, 16A, 3C, IEC 60320 C19.
- ◆ For all other locations, subject to local regulatory agencies policies, the plug's rated ampacity needs to be the same as the products rated ampacity.

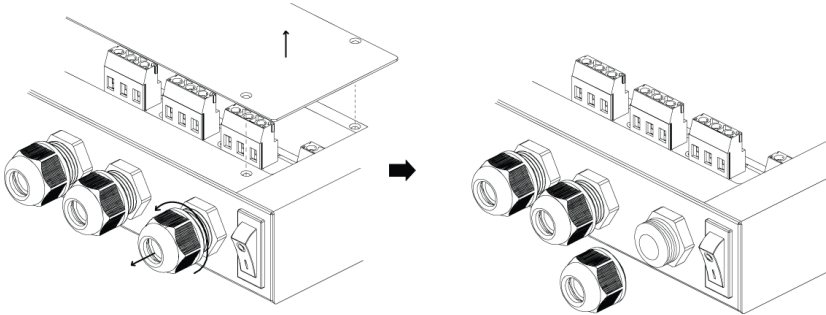
## **Installation**

These instructions must be performed by a licensed electrician.

1. Remove the six screws from the cover covering the terminal block compartment.



2. Remove the cover from the compartment and loosen the cable gland by turning the gland nut counter-clockwise (use a dedicated spanner if required).



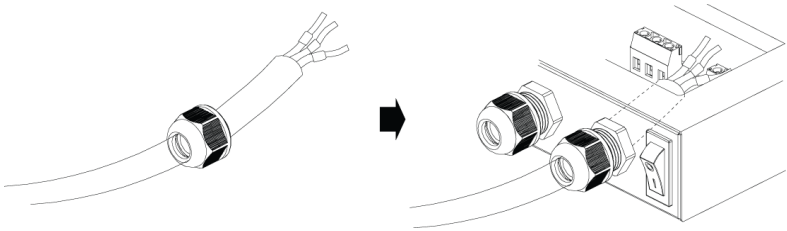
3. Strip off the outer jacket of the power cord using a wire stripper. Use the slot appropriate for the cord's size (refer to *Cord Selection*) on the wire stripper.

Make sure there is a length of 45-60mm exposed for the 3 inner wires and remove any jute, paper or other fillers.

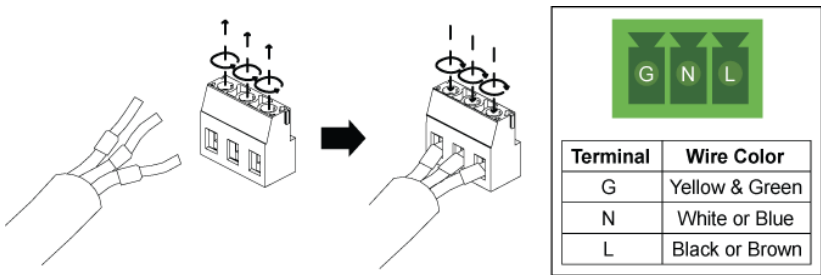
4. There should be 3 inner wires. Strip the wires using the appropriate slot (refer to *Cord Selection*) with the wire stripper.

Make sure there is a length of 6-7mm wire exposed for inserting into the terminal block.

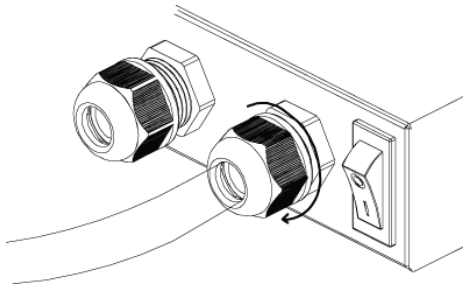
5. Add wire ferrules to the wires.
6. Slide the power cord into the compartment through the cable gland and inner ring as shown below:



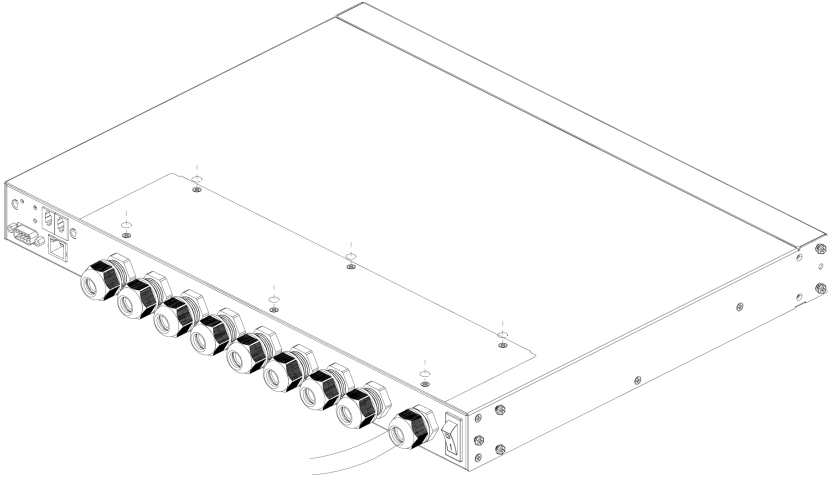
7. Open the gates of the power terminal block by loosening the screws on the top using a screwdriver. Insert the wires according to the table on the right. Tighten the screws on the top (to a torque of 0.5N.m) to secure the wires in the gates.



8. Use a dedicated spanner where necessary, tighten the cable gland by turning the gland nut clockwise (to a torque of 2-3N.m) to secure the cable to the PDU unit. Verify that the power cord is secure and cannot be twisted, pushed or pulled in the gland.



9. Replace the cover and tighten the six screws to secure it to the unit.



## Installation

---

To install the PDU, refer to the installation diagram below (the numbers in the diagram correspond to the numbered steps), and do the following:

1. For each device you want to connect, use its power cable to connect from the device's AC socket to any available outlet on the eco PDU.

For PE6208AVX, please refer to *Power Cord Installation (PE6208AVX)*.

2. Plug the Ethernet cable into the eco PDU's LAN port to connect it to the network.
3. If you are using sensors in your eco PDU installation, connect them to the sensor ports on the unit's rear panel.

---

**Note:** Sensors are optional. Please see *Optional Accessories*, page 5, and the detailed sensor installation diagrams later in this chapter for further information.

---

4. If you choose to use a serial device for control, connect its serial port to the PE6108AV / PE6208AV / PE8208AV's RS-232 port.
5. Connect the eco PDU's power cord to an AC power source.

---

**Note:** We strongly advise that you do not plug the eco PDU into a multi socket extension cord, since it may not receive enough amperage to operate correctly.

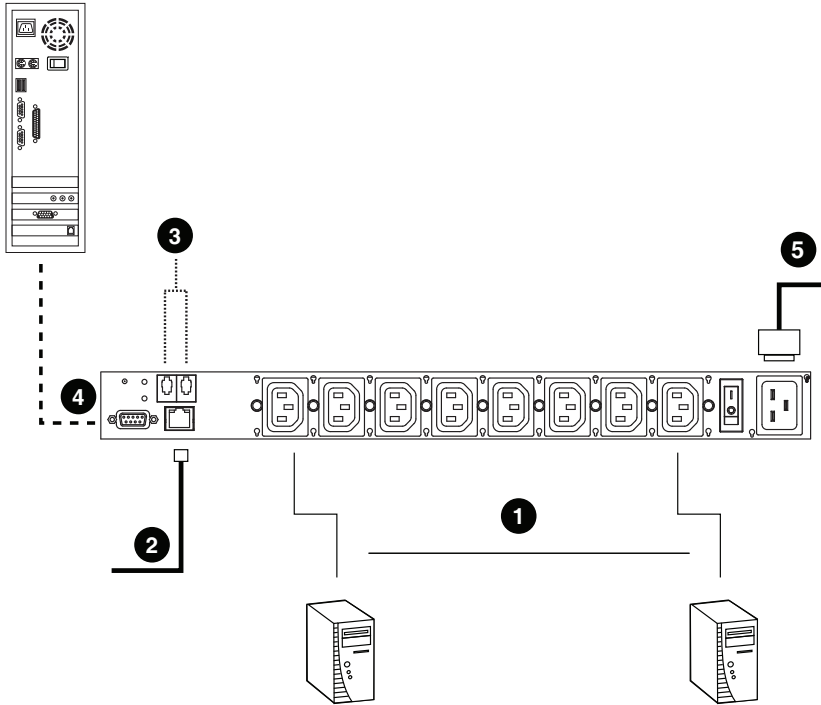
---

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

---

**Note:** We strongly recommend using cable ties and cable bars to safely and securely route the cables attached to the front of the unit.

---

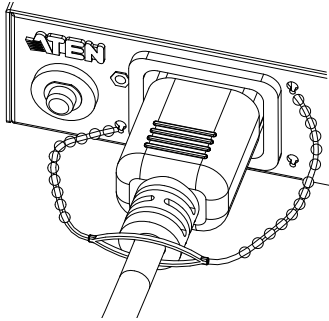


PE6208AVG is the model used in the installation example picture above.

---

## Securing the Cables

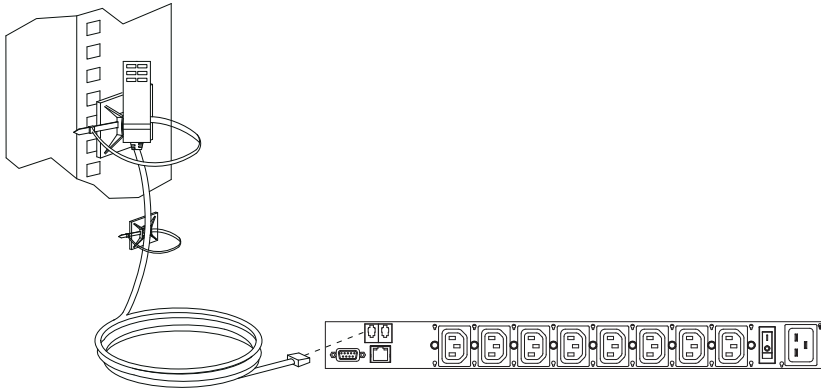
For added safety, use ATEN Lok-U-Plug cable holders (not for PE6208AVX) to secure the cables from your attached devices in place on the eco PDU unit. Secure the cable holders using the specially designed holes around the individual power outlets, as shown below:



- 
- Note:** 1. Cable holders are an optional accessory. See *Cable Holders*, page 5.
2. Use only the ATEN Lok-U-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.
-

## **Securing the Sensors**

Connect the sensors to the eco PDU's rear 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**

---

NRGence eco PDU models provide three methods to access and manage your installation: Browser, eco Sensors Energy Management Software and SNMP.

---

**Note:** The following sections of this chapter contain information concerning Browser operation. For eco Sensors operation, please reference the separate eco Sensors User Manual. The eco Sensors software and User Manual can be downloaded from the ATEN website.

---

#### **Browser**

The eco PDU 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 Sensors**

The eco Sensors Energy Management Software. eco Sensors provides you with an easy method for managing multiple devices, offering an intuitive and user-friendly Graphical Interface that allows you to configure a PDU device and monitor power status of the equipment connected to it. eco Sensors Energy Management Software can be downloaded from the ATEN website, along with a separate eco Sensors User Manual.

#### **SNMP**

The eco PDU supports any 3rd party V3 SNMP Manager Software. SNMP Management Information Database (MIB) files for the eco PDU device can be found on the software CD provided with the eco PDU package.

## First Time Setup

Once the eco PDU installation has been cabled up, the next task the Administrator needs to perform involve configuring the network parameters, changing the default Super Administrator login settings, and adding users.

The way to accomplish this is to log in vi a web browser.

- Note:** 1. Since this is the first time you are logging in, use the default Username: *administrator*; and the default Password: *password*. For security purposes we recommend changing them to something unique (see *Changing the Administrator Login*, page 26).
2. For remote methods of getting logged in to the PDU, see *IP Address Determination*, page 89.

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

The screenshot shows the NRG Office PE8208AV web interface. The top navigation bar includes 'Energy', 'User', 'Log', 'Setup', and 'PDU'. The main content area is titled 'Connections Configuration' and contains two tables: 'PDU Status' and 'Outlet Status'.

**PDU Status Table:**

PDU Name	Measurement	Value	Min Threshold	Max Threshold	PDU Status	
PE8208AV1	Aggregate current	0.36 A				
	Voltage	130.63 V				
	Power	0.0000 W				
	Aggregate power dissipation	35126.5891 KWH				
	Voltage frequency	59.88 HZ				
	Sensor1	Temperature	N/A			<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Humidity	N/A			
		Pressure	N/A			
	Sensor2	Temperature	N/A			
		Humidity	N/A			
	Pressure	N/A				

**Outlet Status Table:**

Outlet	Outlet Name	Measurement	Value	Min Threshold	Max Threshold	Outlet Status
011		Current	0.04 A			<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.44 V			
		Power	0.0000 W			
		Power Dissipation	5657.5604 KWH			
022		Current	0.05 A			<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.44 V			
		Power	0.0000 W			
		Power Dissipation	28177.8512 KWH			
033		Current	0.04 A			<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.39 V			
		Power	0.0000 W			
		Power Dissipation	37.0257 KWH			

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**Note:** Operation details are discussed in *Energy*, page 30, in the next chapter. For further setup information, continue with this chapter

## Network Configuration

To configure the network settings, do the following:

1. Click the **Setup** tab.
2. The interface displays the **Device Configuration** page. A screen similar to the one below appears:

The screenshot shows the NRGence PE6208AV web interface. The top navigation bar includes icons for Energy, User, Log, Setup (highlighted with a red circle), and PDU. The main content area is titled "Device Configuration | Security" and is divided into two panes. The left pane shows a list of ports from [01] 00 to [08] 07. The right pane is titled "General" and contains the following configuration options:

- PDU Name:** QA
- MAC Address:** 00:10:74:9D:77:88
- Firmware Version:** FW Ver:1.8.174
- Rack Location name:** test
- Service Ports:**
  - Only HTTPs
  - HTTP / HTTPs
  - HTTP:** 80
  - HTTPS:** 443
- IPv4 Configuration:**
  - Obtain IP address automatically [DHCP]
  - Set IP address manually [Fixed IP]
  - IP Address:** [ ]
  - Subnet Mask:** [ ]
  - Default Gateway:** [ ]
  - Obtain DNS server address automatically
  - Set DNS server address manually

3. Fill in the fields according to the information provided under *Device Configuration*, page 47.

## Changing the Administrator Login

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

1. Click the **User** tab.

The *Accounts* page has a detailed list of users – with more information about them – in the large central panel:

The screenshot shows the NRGence PE6208AV web interface. The top navigation bar includes Energy, User (highlighted with a red circle), Log, Setup, and PDU. The main content area is titled 'Accounts' and contains the following sections:

- Administrator information**
  - Administrator:
    - Name: administrator
    - Password: .....
- SNMPv3 account information**
  - Name: test
  - Auth-password: .....
  - Priv-Password: .....
- SNMPv1/v2c community**
  - Read community: test
  - Write community: test
- Telnet:**
  - Name: test
  - Password: ....

Below these sections is the **User information** table:

Management	Name	Password	
Enable ▾	Test01	.....	All <input type="checkbox"/>

2. In the **Administrator Information** section, 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 100 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. This is covered in the next chapter.

# Chapter 4

## Browser Operation

### Logging In

---

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

---

**Note:** Browsers must support SSL 128 bit encryption.

---

To access the eco PDU do the following:

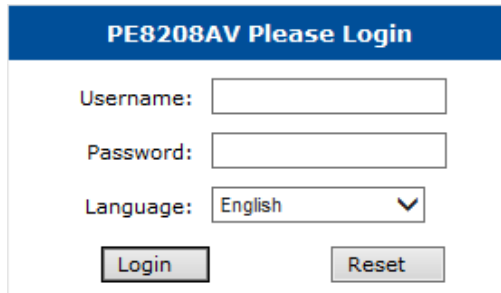
1. Open your browser and specify the IP address of the eco PDU you want to access in the browser's URL location bar.

---

**Note:** You can get the IP address from the eco PDU administrator, or see *IP Address Determination*, page 89, 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:

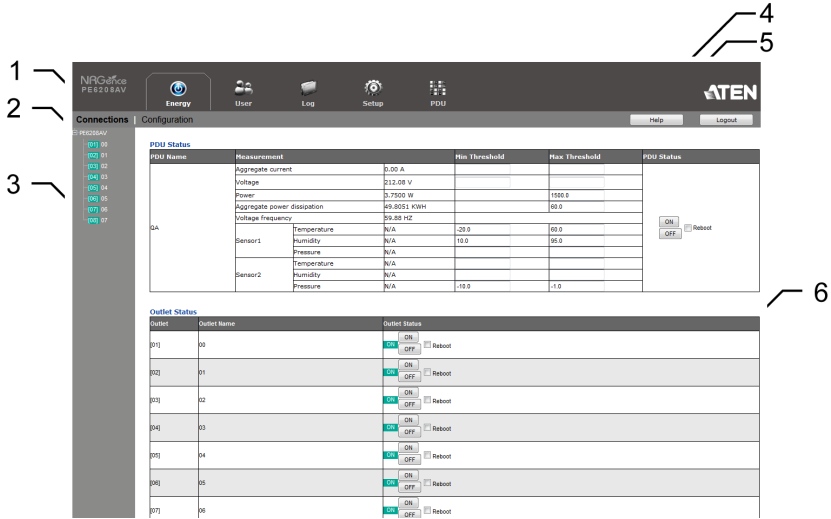


The screenshot shows a login interface for a device labeled 'PE8208AV'. It features a blue header bar with the text 'PE8208AV Please Login'. Below this, there are three input fields: 'Username:' with a text box, 'Password:' with a text box, and 'Language:' with a dropdown menu currently set to 'English'. At the bottom of the form, there are two buttons: 'Login' and 'Reset'.

3. Provide a valid Username and Password (set by the administrator), and select your language. (Options are: English [default]; Traditional Chinese; Simplified Chinese; Japanese; German; Italian; Spanish; French; Russian; Korean; Portuguese).
4. Then 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 a user’s type and permissions, not all of these elements 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 authorization options that were selected when the user’s account was created.
2	Menu Bar	The menu bar contains operational sub-categories that pertain to the item selected in the tab bar. The items that appear in the menu bar are determined by the user’s type, and the authorization options 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.

---

No.	Item	Description
4	Help	Connects to on-line help at 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.

---

# Energy

## Connections

When you log in to the eco PDU, the interface opens with its default selection of the *Energy* tab; and the *Connections* menu. The contents of the **PDU Status** and **Outlet Status** sections are displayed in the main panel.

The screenshot displays the ATEN eco PDU web interface. The top navigation bar includes 'Energy', 'User', 'Log', 'Setup', and 'PDU' tabs. The main content area is divided into two sections: 'PDU Status' and 'Outlet Status'.

**PDU Status**

PDU Name	Measurement	Min Threshold	Max Threshold	PDU Status
PE8208AV1	Aggregate current	0.26 A		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
	Voltage	130.63 V		
	Power	0.0000 W		
	Aggregate power dissipation	35126.5891 KWH		
	Voltage frequency	59.88 HZ		
Sensor1	Temperature	N/A		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
	Humidity	N/A		
	Pressure	N/A		
Sensor2	Temperature	N/A		
	Humidity	N/A		
	Pressure	N/A		

**Outlet Status**

Outlet	Outlet Name	Measurement	Min Threshold	Max Threshold	Outlet Status
011		Current	0.04 A		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.44 V		
		Power	0.0000 W		
		Power Dissipation	5857.5804 KWH		
021		Current	0.05 A		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.44 V		
		Power	0.0000 W		
		Power Dissipation	29177.8512 KWH		
031		Current	0.04 A		<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/> Reboot
		Voltage	130.39 V		
		Power	0.0000 W		
		Power Dissipation	37.0257 KWH		

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**Note:** Only enabled eco PDU models will display the Outlet Status submenu section. Other models provide only PDU Status monitoring. See *Features*, page 3, for which models support PDU and Outlet Status or PDU Status only monitoring.



## 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	
PE8208AV1	Aggregate current	0.36 A			<input type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot	
	Voltage	130.13 V				
	Power	0.0000 W				
	Aggregate power dissipation	35126.5891 KWH				
	Voltage frequency	59.88 HZ				
	Sensor1	Temperature	N/A			
		Humidity	N/A			
		Pressure	N/A			
	Sensor2	Temperature	N/A			
		Humidity	N/A			
		Pressure	N/A			

### ■ PDU Threshold Settings

These fields are used to set the maximum, minimum, and fluctuation threshold settings for Aggregate Current, Voltage, Power, and Aggregate Power Dissipation. If a range falls below the minimum setting, or exceeds the maximum setting an alarm is triggered. The *Aggregate Current* Max Threshold setting triggers the Proactive Overload Protection (POP) mode (see page 34).

- ◆ **Voltage Frequency** is displayed here in Hz.
- ◆ **On / Off / Reboot**

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

- ◆ **Sensor 1 / Sensor 2**

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

---

**Note:** Sensors are optional accessories. Check with your dealer for information about NRGence eco Sensors software.

---

## Outlet Status (PE6208AV)

The PE6208AV supports on, off and reboot control from the outlet status column for each outlet.

### Outlet Status

Outlet	Outlet Name	Outlet Status
[01]	00	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
[02]	01	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
[03]	02	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
[04]	03	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
[05]	04	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot

### ■ On / Off / Reboot

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

## Outlet Status (PE8208AV)

The PE8208AV supports outlet level monitoring; and on, off and reboot control. The main panel Outlet Status section allows you to set up a power management configuration for each outlet at an individual level.

### Outlet Status

Outlet	Outlet Name	Measurement		Min Threshold	Max Threshold	Outlet Status
[01]		Current	0.04 A	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
		Voltage	129.98 V	<input type="text"/>	<input type="text"/>	
		Power	0.0000 W	<input type="text"/>	<input type="text"/>	
		Power Dissipation	5857.5604 KWH	<input type="text"/>	<input type="text"/>	
[02]		Current	0.05 A	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
		Voltage	129.98 V	<input type="text"/>	<input type="text"/>	
		Power	0.0000 W	<input type="text"/>	<input type="text"/>	
		Power Dissipation	29177.8512 KWH	<input type="text"/>	<input type="text"/>	
[03]		Current	0.04 A	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> ON <input type="radio"/> OFF <input type="checkbox"/> Reboot
		Voltage	129.98 V	<input type="text"/>	<input type="text"/>	
		Power	0.0000 W	<input type="text"/>	<input type="text"/>	
		Power Dissipation	37.0257 KWH	<input type="text"/>	<input type="text"/>	

### ■ Outlet Threshold Settings

These fields are used to set the maximum, minimum, and fluctuation threshold settings for Current, Voltage, Power, and Power Dissipation. If a range falls below the minimum setting, or exceeds the maximum setting an alarm is triggered. The *Current* Max Threshold setting triggers the Proactive Overload Protection (POP) mode (see page 36).

### ■ On / Off / Reboot

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

## **Configuration (PE6208AV)**

The *Configuration* page is used to configure the settings of the PE6208AV at the individual power outlet level.

### **POP Settings**

Enable Bank POP Priority Mode

### **Power On Time Schedule Settings**

Enable Power On Time Schedule

### **Buzzer Setting**

Enable Buzzer Alarm

### **Outlet Reboot Setting**

Enable Outlet Sequential Reboot

## ■ **POP Settings**

This section allows you to enable Proactive Overload Protection (POP). Proactive Overload Protection is triggered when the PDU's *Aggregate Current Max Threshold* setting is exceeded (see page 31). Effective on all outlets, this added safety feature automatically powers off the outlets according to the settings below:

- ◆ **Enable Bank POP Priority Mode** checking this box enables Proactive Overload Protection and will power off outlets according to the *Bank POP Priority List* (see page 35).

## ■ **Power On Time Schedule Settings**

Check the **Enable Power On Time Schedule** box to use the *Power ON Delay* setting to set the amount of time the eco PDU waits before powering on an outlet. See *Power ON Delay* in the table on the next page.

## ■ **Buzzer Setting**

Checking the **Enable Buzzer Alarm** box sounds an alarm and sends SNMP trap or e-mail alerts when a threshold setting exceeds the minimum or maximum setting.

## ■ **Outlet Reboot Setting**

Checking the **Enable Outlet Sequential Reboot** box allows you to sequentially reboot all outlets by pressing the Power Control Button of Outlet 1 for more than 8 seconds.

## ■ Bank POP Priority List

Use the eight drop-down menus to set the priority for when Proactive Overload Protection powers off the outlets. The outlet set as *Priority1* will be powered off first, *Priority2* will be powered off second, and so on. Outlets set to **N/A** will not be powered off when Proactive Overload Protection is triggered.

To change the Priority List, set at least two drop-down menus to **N/A**. Outlets set to **N/A** become available for selection in the Priority drop-down menus. An easy way to reconfigure all outlets is to set all drop-down menus to **N/A** and then go back select an outlet for each *Priority1~8* setting. Outlets set to **N/A** will not be powered off when Proactive Overload Protection is triggered.

### Bank POP Priority List

Bank 1		
Priority1	N/A	▼
Priority2	Outlet 2	▼
Priority3	N/A	▼
Priority4	N/A	▼
Priority5	Outlet 5	▼
Priority6	Outlet 6	▼
Priority7	Outlet 7	▼
Priority8	Outlet 8	▼

## **Configuration (PE8208AV)**

The *Configuration* page is used to configure the settings of the PE8208AV at the individual power outlet level:

### **POP Settings**

- Enable Outlet POP
- Enable Bank POP LIFO Mode
- Enable Bank POP Priority Mode

### **Power On Time Schedule Settings**

- Enable Power On Time Schedule

### **Buzzer Setting**

- Enable Buzzer Alarm

### **Outlet Reboot Setting**

- Enable Outlet Sequential Reboot

## ■ POP Settings

This section allows you to enable Proactive Overload Protection (POP). Proactive Overload Protection is triggered when a PDU's or Outlet's *Current Max Threshold* setting is exceeded. Effective on all outlets, this added safety feature automatically powers off outlets according to the settings below:

- ◆ **Enable Outlet POP** checking this box triggers Proactive Overload Protection to power off an outlet when it's *Current Max Threshold* setting is exceeded (see page 33).
- ◆ **Enable Bank POP LIFO Mode** checking this box triggers Proactive Overload Protection to power off a newly inserted device (LIFO), when it causes the PDU's *Aggregate Current Max Threshold* setting to be exceeded (see page 31). All other outlets stay powered on.
- ◆ **Enable Bank POP Priority Mode** checking this box triggers Proactive Overload Protection when the PDU's *Aggregate Current Max Threshold* setting is exceeded (see page 31). This will power off outlets according to the *Bank POP Priority List* settings (see page 37).
- ◆ For more information about how the POP Settings work together, see *POP Setting Scenarios*, page 38.

## ■ Power On Time Schedule Settings

Check the **Enable Power On Time Schedule** box to use the *Power ON Delay* setting to set the amount of time the eco PDU waits before powering on an outlet. See *Power ON Delay* in the table on the next page.

## ■ Buzzer Setting

Checking the **Enable Buzzer Alarm** box sounds an alarm and sends SNMP trap or e-mail alerts when a threshold setting exceeds the minimum or maximum setting.

## ■ Outlet Reboot Setting

Checking the **Enable Outlet Sequential Reboot** box allows you to sequentially reboot all outlets by pressing the Power Control Button of Outlet 1 for more than 8 seconds.

## ■ Bank POP Priority List

Use the eight drop-down menus to set the priority for when Proactive Overload Protection powers off the outlets. The outlet set as *Priority1* will be powered off first, *Priority2* will be powered off second, and so on. Outlets set to **N/A** will not be powered off when Proactive Overload Protection is triggered.

To change the Priority List, set at least two drop-down menus to **N/A**. Outlets set to **N/A** become available for selection in the Priority drop-down menus. An easy way to reconfigure all outlets is to set all drop-down menus to **N/A** and then go back select an outlet for each *Priority1~8* setting. Outlets set to **N/A** will not be powered off when Proactive Overload Protection is triggered.

### Bank POP Priority List

Bank 1	
Priority1	N/A
Priority2	Outlet 2
Priority3	N/A
Priority4	N/A
Priority5	Outlet 5
Priority6	Outlet 6
Priority7	Outlet 7
Priority8	Outlet 8

## POP Setting Scenarios

	Setting	Description
A	<input checked="" type="checkbox"/> Enable Outlet POP <input type="checkbox"/> Enable Bank POP LIFO Mode <input type="checkbox"/> Enable Bank POP Priority Mode	Triggers Proactive Overload Protection to power off an outlet when it's <b>Current</b> Max Threshold setting is exceeded. Only the outlet that exceeds the threshold setting is powered off.
B	<input checked="" type="checkbox"/> Enable Outlet POP <input checked="" type="checkbox"/> Enable Bank POP LIFO Mode <input type="checkbox"/> Enable Bank POP Priority Mode	Triggers setting A and: Triggers Proactive Overload Protection to shut off power to a newly inserted device (LIFO), when it causes the PDU's <b>Aggregate Current</b> Max Threshold setting to be exceeded. Only the outlet with a newly inserted device is powered off; all other outlets stay on. If another outlet exceeds the Aggregate Current threshold, an alarm is triggered.
C	<input checked="" type="checkbox"/> Enable Outlet POP <input checked="" type="checkbox"/> Enable Bank POP LIFO Mode <input checked="" type="checkbox"/> Enable Bank POP Priority Mode	Triggers setting A and: Triggers Proactive Overload Protection when the PDU's <b>Aggregate Current</b> Max Threshold setting is exceeded and shuts off power to the (LIFO) outlet first, and then the remaining outlets in order, according to the <i>Bank POP Priority List</i> . Any outlet set to <b>N/A</b> will not be powered off.
D	<input checked="" type="checkbox"/> Enable Outlet POP <input type="checkbox"/> Enable Bank POP LIFO Mode <input checked="" type="checkbox"/> Enable Bank POP Priority Mode	Triggers setting A and: Triggers Proactive Overload Protection when the PDU's <b>Aggregate Current</b> Max Threshold setting is exceeded to power off outlets according to the <i>Bank POP Priority List</i> . Any outlet set to <b>N/A</b> will not be powered off.



## ■ Outlet Configuration

The *Outlet Configuration* section lets you set the power management settings for each outlet on the PDU.

### Outlet Configuration

Outlet	Outlet Name	Confirmation Required	Outlet Locked	Delay Time (sec)		Remote Turn ON Method
				Power ON	Power OFF	
[01]	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[02]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[03]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[04]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[05]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[06]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[07]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>
[08]	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="5"/>	<input type="text" value="1"/>	Method: <input type="text" value="Kill the Power"/> MAC Address: <input type="text" value="000000000000"/>

Heading	Meaning
Outlet	Shows the port number of the listed outlet.
Outlet Name	Each outlet can be given a distinctive name. The maximum number of characters is 15.
Confirmation Required	If this option is enabled (there is a check in the checkbox), a dialog box comes up asking you to confirm a power operation before it is performed. If it is disabled (there is no check in the checkbox), the operation is performed without confirmation.
Outlet Locked	Check this box to disable use of the front panel Power Control Button for the outlet. When you check the box the outlet's Local LED turns off and the Power Control Button will no longer reboot the outlet. <b>Note:</b> Uncheck the box to enable Local Mode.

Heading	Meaning
Delay Time (sec) Power ON	<p>Sets the amount of time the eco PDU waits after the Power Button is clicked (see <i>Outlet Status (PE6208AV)</i>, page 32), before it turns on the power to the outlet. You must check the <i>Enable Power On Time Schedule Setting</i> box for this setting to take effect. See <i>Power On Time Schedule Settings</i>, page 34, for details.</p> <p><b>Note:</b> 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.</p>
Delay Time (sec) Power OFF	<p>Sets the amount of time the eco PDU waits after the Power Button is clicked (see <i>Outlet Status (PE6208AV)</i>, page 32), before it turns off the power to the outlet.</p> <p>For the <i>System after AC Back</i> option (see below), after the delay time expires, the eco PDU waits another fifteen seconds, then shuts the computer down.</p> <p>The default delay time is 15 seconds. The maximum delay time is 999 seconds.</p>
Remote Turn ON Method	<p>Use the drop-down menu to select one of the choices, below:</p> <p><b>Wake on LAN:</b> This is a Safe Shutdown and Restart option. If this is 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 time set in the <i>Power Off Delay</i> field to give the OS time to close down before the computer is powered down to standby mode.</p> <p>Likewise, when the Outlet is turned On, the eco PDU waits for the amount time set in the <i>Power On Delay</i> field, then sends an Ethernet message to the computer connected to the Outlet telling the computer to turn itself On.</p> <p><b>Note:</b> For Safe Shutdown and Restart, the computer must be running Windows (98 or higher), or Linux, and the <i>Safe Shutdown</i> program (available by download from our website), must be installed and running on the computer.</p> <p><b>System after AC Back:</b> This is a Safe Shutdown and Restart option. If this is 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 time set in the <i>Power Off Delay</i> field to give the OS time to close down before the computer is powered down.</p> <p>When the Outlet is turned On, the eco PDU waits for the amount time set in the <i>Power On Delay</i> field, then sends power to the server. When the server receives the power, it turns itself on.</p> <p><b>Note:</b> For Safe Shutdown and Reboot, the computer must be running Windows (98 or higher), or Linux, and the <i>Safe Shutdown</i> program (available by download from our website), must be installed and running on the computer.</p> <p><b>Kill the Power:</b> If this option is selected, the eco PDU waits for the amount time set in the <i>Power Off Delay</i> field, and then turns the Outlet's power Off. Turning the power off performs a cold (non-safe) shutdown.</p>

Heading	Meaning
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.
Auto Ping Method	<p><i>Auto Ping Method</i> pings a device at specified intervals and if there is no response (Request timed out) the PDU automatically powers cycles the outlet (off and then on).</p> <p><b>Config:</b> Use this drop-down menu to select the type of device you want to ping:</p> <ul style="list-style-type: none"> <li>◆ <i>Sky/SkyHD/SkyQ (DLNA)</i> will auto configure the <i>Method</i> and <i>Port</i> settings and they cannot be changed.</li> <li>◆ Use <i>Other</i> to ping any other network device.</li> </ul> <p><b>Method:</b> Use the drop-down menu to select:</p> <ul style="list-style-type: none"> <li>◆ <i>None</i> to disable Auto Ping Method.</li> <li>◆ <i>Ping</i> to ping a specified IP address.</li> <li>◆ <i>Telnet</i> to ping the port of a specified IP address.</li> </ul> <p><b>Interval Time:</b> Enter the number of minutes to elapse between each auto-ping that is sent to test the network device.</p> <p><b>Retries:</b> Enter the number of power cycles to attempt if the device cannot be pinged after the initial power cycle. If the device still cannot be pinged after the specified number of retries, the PDU will stop pinging the device and shut off the outlet. To restart Auto Ping Method, you must set the Auto Ping <i>Method</i> to <b>None</b>, reselect Ping or Telnet, and then power on the outlet.</p> <p><b>IP Address:</b> Enter the IP address of the device you want to ping.</p> <p><b>Port:</b> Enter the port number of the device you want Telnet to ping. This option is available when Telnet is selected.</p>
Holiday Mode	<p>Use this drop-down menu to select the outlet's Holiday Mode. When Holiday Mode is enabled, each outlet will be set to the selection chosen for it: <b>POWER OFF</b> or <b>POWER ON</b>.</p> <p>When Holiday Mode is disabled, the outlets return to the outlet status setting before Holiday Mode was enabled.</p> <p>To enable/disable Holiday Mode, press and hold Power Control Button <b>(8)</b> in for more than 8 seconds. This is a toggle setting.</p>

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

## User

When you select the *User* tab the screen comes up with *Administrator Information* and *User Information* displayed in the main panel. The eco PDU supports one Administrator account and up to eight User accounts.

- Note:**
1. Each account can support 2 login sessions.
  2. The eco PDU supports a total of 3 concurrent login sessions.

**Administrator information**

**Administrator:**

Name:  Password:

**SNMPv3 account information**

Name:  Auth-password:  Priv-Password:

**SNMPv1/v2c community**

Read community:  Write community:

**Telnet:**

Name:  Password:

---

**User information**

Management	Name	Password	Outlet										
			All	01	02	03	04	05	06	07	08		
Enable <input type="checkbox"/>	Test01	*****	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable <input type="checkbox"/>	brett	*****	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Enable <input type="checkbox"/>	c	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Enable <input type="checkbox"/>	s	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Enable <input type="checkbox"/>	e	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable <input type="checkbox"/>	f	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable <input type="checkbox"/>	x	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Enable <input type="checkbox"/>	q	*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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

### Administrator Information

This section is used to set the Administrator name 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.

Click *Save* to save your settings.

## User Information

To add a user, do the following:

1. Select the Enable or Disable 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 various options are explained in more detail in the following table:

Field	Description
Management	The Management field allows you to Enable or Disable a user's account: <ul style="list-style-type: none"> <li>◆ Enable – stores the user account (see <i>User Information</i>, page 43)</li> <li>◆ Disable – disables the user account</li> </ul>
Name	From 1 to 16 characters are allowed depending on the Account Policy settings. See <i>Account Policy</i> , page 56.
Password	From 1 to 16 characters are allowed depending on the Account Policy settings. See <i>Account Policy</i> , page 56.

Field	Description		
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	

## Log

The *Log* tab keeps a record of transactions that take place on its installation, and stores up to 128 events at one 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.

Refresh 25 Events per Page Page 1 of 6

No.	Date/Time	Category	Severity	User	Description
001	2014-07-16 23:44:10	Device	Information	administrator	Bank 1 name was changed by administrator.
002	2014-07-16 23:43:52	Device	Information	administrator	Bank 1 name was changed by administrator.
003	2014-07-16 23:01:22	Device	Information		Outlet 6 was turned OFF.
004	2014-07-16 23:01:21	Device	Information	administrator	OFF command issued to Outlet 6 by administrator.
005	2014-07-16 23:01:13	Device	Information		Outlet 3 was turned OFF.
006	2014-07-16 23:01:12	Device	Information	administrator	OFF command issued to Outlet 3 by administrator.
007	2014-07-16 23:01:06	Device	Information		Outlet 1 was turned OFF.
008	2014-07-16 23:01:05	Device	Information	administrator	OFF command issued to Outlet 1 by administrator.
009	2014-07-16 21:33:21	User Management	Information	administrator	User (Username: ss) access rights were modified by administrator.
010	2014-07-16 21:33:21	User Management	Information	administrator	User (Username: dd) access rights were modified by administrator.
011	2014-07-16 21:33:21	User Management	Information	administrator	User (Username: ff) access rights were modified by administrator.
012	2014-07-16 21:32:41	User Management	Information	administrator	User (Username: aa) access rights were modified by administrator.
013	2014-07-16 21:31:29	Authentication	Information	administrator	administrator 10.3.41.62 logged in.
014	2014-07-16 20:39:33	Authentication	Information	administrator	administrator 10.3.52.74 logged out.
015	2014-07-16 14:40:19	Device	Information	administrator	Outlet 24 name was changed by administrator.
016	2014-07-16 14:40:19	Device	Information	administrator	Outlet 25 name was changed by administrator.
017	2014-07-16 14:40:18	Device	Information	administrator	Outlet 22 name was changed by administrator.

### 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 brings the log list up to date with the latest events.
- ◆ The entry box to the right of the Refresh button lets you set the number of events to display per page. Simply key in the number of your choice.
- ◆ The top right of the main panel shows the total number of pages in the log file, and what page you are currently viewing.
- ◆ The buttons on 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 save the contents of the log event list to file.

## 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:

Event Log Settings

Event List

Event	Systog	E-mail	SNMP
Enable all system events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Log export succeeded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
System event log (SEL) cleaned	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FW upgrade succeeded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FW upgrade failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device configuration restore succeeded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device configuration restore failed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device configuration backup succeeded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device configuration settings modified	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security settings modified	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FW upgrade started	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Device rebooted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PDU get new IP address	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Enable all Authentication events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable all User Management events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enable all Device Management events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

- ◆ 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.



## Setup

The *Setup* tab provides Device Configuration and Security settings. The *Device Configuration* page allows administrators to configure eco PDU system settings. The *Security* page controls access to the PDU.

### Device Configuration

This page presents information about the selected device, as described in the following sections:

#### General

**General**

PDU Name :

MAC Address : 00:04:A3:1E:FC:19

Firmware Version : 1.0.023 Ver

Rack Location name :

Item	Meaning
PDU Name	This field lets you give the device a unique name. Simply delete whatever is in the text box and key in the name of your choice. Click <b>Save</b> (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 number. You can reference it to see if there are newer versions available on the NRGence website.
Rack Location Name	This field lets you give the rack location a unique name for easy reference.

## 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 they log 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 show below:

### Service Ports

Only HTTPs    HTTP / HTTPs

HTTP:

HTTPs:

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 1–65535.
  2. The service ports cannot have the same value. You must set a different value for each one.
  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 dynamically (DHCP), or a fixed IP address can be specified.

### IPv4 Configuration

Obtain IP address automatically [DHCP]

Set IP address manually [Fixed IP]

IP Address:

Subnet Mask:

Default Gateway:

Obtain DNS server address automatically

Set DNS server address manually

Preferred DNS Server:

Alternate DNS Server:

- ◆ 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 waits to get its IP address from the DHCP server. If it hasn't obtained the address after one minute, it automatically reverts to its factory 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 89, for information.
  3. Specifying the Alternate DNS Server address is optional.
-

## Event Notification

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

### ◆ SMTP Server

#### Event Notification

##### SMTP Server

Enable report from the following SMTP Server

SMTP Server:

SMTP Port Number :

My server requires authentication

Account Name:

Password:

From:

To:

To have the eco PDU email reports from the SMTP server to you, do the following:

1. Enable the *Enable report from the following SMTP Server*, and key in the IP address and Port number of your SMTP server.
2. If your server requires authentication, put a check in 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* fields, and it cannot exceed 64 characters.

---

4. Key in the email address (addresses) of where you want the event reports sent to in the *To* field.

---

**Note:** If you are sending the report to more than one email address, separate the addresses with a semicolon. The total cannot exceed 256 characters.

---

## ◆ SNMP Trap Receivers

### SNMP Trap Receiver

<input type="checkbox"/> Enable SNMP Trap	<input checked="" type="radio"/> SNMPv3	<input type="radio"/> SNMPv2c	<input type="radio"/> SNMPv1
Receiver IP 1:	<input type="text" value="0.0.0.0"/>		
Service Port 1:	<input type="text" value="162"/>		
Community 1:	<input type="text"/>		
User name 1:	<input type="text"/>		
Auth-password 1:	<input type="text"/>		
Priv-Password 1:	<input type="text"/>		
Receiver IP 2:	<input type="text" value="0.0.0.0"/>		
Service Port 2:	<input type="text" value="162"/>		
Community 2:	<input type="text"/>		
User name 2:	<input type="text"/>		
Auth-password 2:	<input type="text"/>		
Priv-Password 2:	<input type="text"/>		

Up to four SNMP management stations can be specified. If you want to use 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 of SNMP trap events. The valid port range is 1–65535. The default port number is 162.

---

**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 for the SNMP version.
5. Key in the auth/privacy password(s) that correspond to each of the stations.

## Syslog Server

### Syslog Server

Enable Syslog Server

Server IP:

0.0.0.0

Service Port:

514

To record all the events that take place on 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 the port number of the Syslog server. The valid port range is 1-65535. The default port number is 514.

## Date/Time

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


### Date Time

#### Time Zone

(GMT-12:00) Eniwetok Kwajalein

Daylight Savings Time

#### Manual Input

Date:    
(YYYY-MM-DD)

Time:  (HH:MM:SS)

Sync with PC

#### Network Time

Enable auto adjustment

AU | ntp1.cs.mu.OZ.AU

Preferred custom server IP:

Alternate time server:

AU | ntp1.cs.mu.OZ.AU

Alternate custom server IP:

Adjust time everyday

Adjust Time Now

### Time Zone

- ◆ To establish the time zone that the eco PDU is located in, drop down the *Time Zone* list and 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 click the 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 (the checkbox is unchecked).

---

As an alternative to specifying the date and time by entering them into the date and time fields, you can click to put a check in the *Sync with PC* checkbox, in which case 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. Drop down the time server list to 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, if you want to synchronize immediately, click **Adjust Time Now**.



## **Security**

The *Security* page controls access to the eco PDU device.

**Security**

**Login Failures**

Allowed:

Timeout:  min

**Working Mode**

Enable ICMP

Enable Telnet Server

**Session Timeout**

Enable Web Session Timeout in  Minute(s)

### **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 login again after exceeding the number of allowed failures.

### **Working Mode**

- ◆ If *Enable ICMP* is checked, the eco PDU device can be pinged. If it is not enabled, the device cannot be pinged. The default is Enabled.
- ◆ If *Enable Telnet Server* is checked, the PDU is accessible via a Telnet sessions using the Telnet username and password (see *Telnet*, page 43)

### **Session Timeout**

- ◆ If *Enable Web Session Timeout in* is checked, a user's web session will logout due to inactivity after the number of *Minute(s)* entered (1–5) is surpassed.

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

## Account Policy

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

### Account Policy

Minimum Username Length:

Minimum Password Length:

Password Must Contain At Least:

- One Upper Case
- One Lower Case
- One Number

Disable Duplicate Login

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 1–16.
Minimum Password Length	Sets the minimum number of characters required for a password. Acceptable values are from 1–16.
Password Must Contain At Least	Checking any of these items requires users to include at least one of the specified items in their password. <b>Note:</b> 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.

## Login String / IP Filter / Mac Filter

### Login String/IP Filter/MAC Filter

Login String:

IP Filter Enable     Include     Exclude

MAC Filter Enable     Include     Exclude

#### ■ Login String

The *Login String* entry field is used to specify a login string (in addition to the IP address) that users must include when accessing the eco PDU device with a browser. For example:

192.168.0.126/abcdefg

- ◆ The following characters are allowed:  
0–9 a–z A–Z ~ ! @ \$ \* ( ) \_ ' ,
  - ◆ The following characters are not allowed:  
& ^ { } ' < > | " % ” : / ? # \ [Space] + - = [ ] ;
- Compound characters (É Ç ñ ... etc.)

- 
- Note:** 1. There must be a forward slash between the IP address and the string.
2. If no login string is specified here, anyone will be able to access the eco PDU device login page using the IP address alone. This makes your installation less secure.
- 

For security purposes, we recommend that you change this string occasionally.

---

## ■ 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.

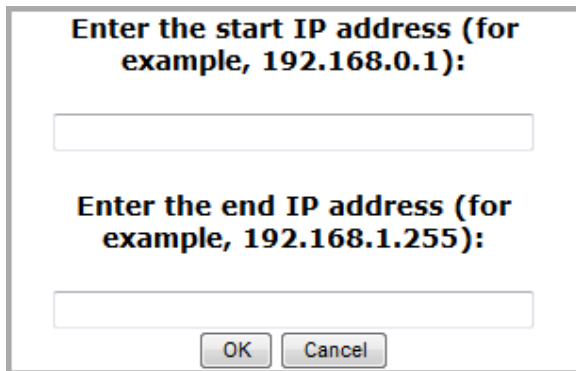
To enable IP and/or MAC filtering, click to put a check mark in the *IP Filter Enable* and/or *MAC Filter Enable* checkbox.

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



**Enter the start IP address (for example, 192.168.0.1):**

**Enter the end IP address (for example, 192.168.1.255):**

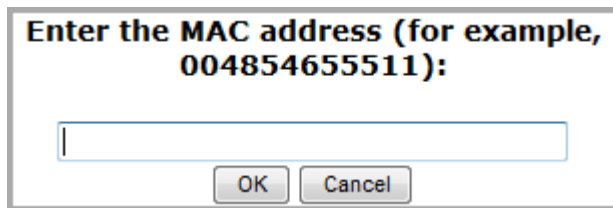
OK Cancel

2. Specify the start filter address in the dialog box (for example, 192.168.0.200), then click **OK**.
3. 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).
4. After filling in the address, click **OK**.

Repeat these steps for any additional IP addresses 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 filter and a 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 page is used to set up login authentication and authorization management from external sources.

### **Authentication & Authorization**

#### **RADIUS Settings**

Enable RADIUS

Preferred RADIUS Server IP:	<input type="text" value="0.0.0.0"/>
Preferred RADIUS Service Port:	<input type="text" value="1812"/>
Alternate RADIUS Server IP:	<input type="text" value="0.0.0.0"/>
Alternate RADIUS Server Port:	<input type="text" value="1645"/>
Timeout:	<input type="text" value="1"/> sec
Retries:	<input type="text" value="0"/>
Shared Secret (at least 6 characters):	<input type="text"/>

### **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 waits for a RADIUS server 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/administrator or su/user
```

Where *xxxx* represents the Username given to the user when the account was created on the eco PDU device. The user's access rights are the ones assigned for the eco PDU device, as well. (See *User Information*, page 43.)

---

**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.

### Private Certificate

Private Key:

Certificate:

There are two methods for establishing your private certificate: generating a self-signed certificate; and 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 the greatest 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.

*(Continues on next page.)*

### Importing the Private Certificate

To import the private certificate, do the following:

1. Click **Browse** to the right of *Private Key*; browse to where your private encryption key file is located; and select it.
2. Click **Browse** to the right of *Certificate*; browse to where your certificate file is located; 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**.



## PDU

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

### Firmware File

When you click the **Maintenance** tab, the display opens with the *Firmware Upgrade* menu page, which looks similar to the one below:

**Firmware File**

Check Main Firmware Version

Energy Box Name	F/W Version
[PE1108A]	FW Ver:1.1.133

Filename:

**Backup**

Password:

**Restore**

Filename:

Password:

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

Item	Description
Check Main Firmware Version	If you enable <i>Check Main Firmware Version</i> , the eco PDU's current firmware level 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.
Name	Lists all of the eco PDU devices. Click to put a check in the checkbox of the device's whose firmware 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 on our website and can be downloaded to a convenient location on your computer. Click the <i>Browse</i> 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 screenshot on the preceding page, and do the following:

1. Go to our website and download the new firmware file to a convenient location on your computer.
2. Click the *Browse* button; navigate to where the firmware file is located and select it.
3. Click **Upgrade** to start the upgrade procedure.
  - ◆ If you enabled *Check Main Firmware Version* the current firmware level 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 checking what its level is.
  - ◆ Once the upgrade completes successfully, the switch resets itself.
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 7).
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 main firmware again.

## **Backup/Restore**

Selecting *Backup/Restore* on the menu bar gives you the ability to back up the switch's configuration and user profile information:

### **Backup**

To backup the device's settings do the following:

1. In the *Password* field, key in a password for the file.

---

**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 renamed the file, you can leave the new name. 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 that are presented as you wish to restore.
4. Click **Restore**.

After the file is restored, a message appears to inform you that the procedure succeeded.

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# Chapter 5

## RS-232 / Telnet Commands

### Remote Terminal Operations

---

With ATEN PE6108AV / PE6208AV / PE8208AV you can log in remotely from a computer using Telnet or via the built-in bi-directional RS-232 serial interface that allows system control through a high-end controller or PC.

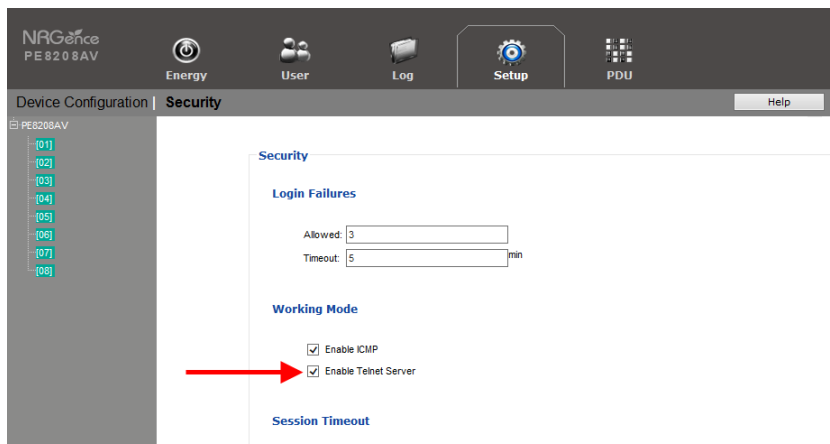
### Telnet

Telnet is a program that connects to a device over a network to provide text-based management and control. Telnet provides some of the same management features found in the eco PDU's web GUI. You can reference the eco PDU's web GUI functions by downloading the user manual from our website ([www.aten.com](http://www.aten.com)). This can help you as you work your way through the text-based commands used to control the eco PDU that are discussed in this guide.

Telnet is available on all NRGence™ eco PDUs installed with the latest firmware. You can log in to the eco PDU via Telnet from any computer connected to the same network.

### Setup

Log in to the eco PDU's web GUI, go to the **Setup** tab and click **Security** from the menu bar. Under **Working Mode**, check *Enable Telnet Server* and then click **Save** at the bottom of the page.



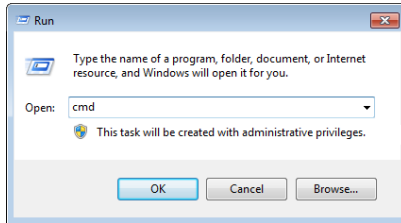
**Note:** If the *Enable Telnet Server* option is not available, please download the latest firmware from our website.

---

## Logging In

To log in to the eco PDU via Telnet, do the following:

1. On your computer, open the start menu and select **Run**. Type: `cmd`

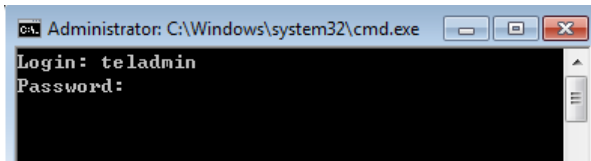


Click **OK**.

2. At the command prompt, key in `telnet` and the IP Address of the PDU, as follows:

```
telnet [IP Address]
```

3. Press **Enter**. The login screen appears:

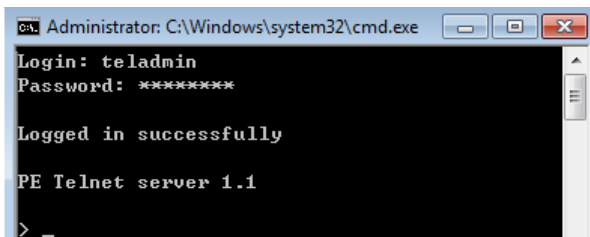


4. At the login prompt, enter Username: **teladmin**; and Password: **telpwd**.

**Note:** The Telnet username and password can be configured on the User tab of the eco PDU's web GUI.

---

5. When the Telnet session is established, *Logged in successfully* appears along with the command line prompt:

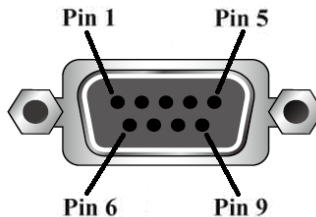


## RS-232 Serial Control

This section provides the serial control settings and PIN assignments used to configure the RS-232 Serial Port.

### RS232 Pin Assignment

Pin	Description	Pin	Description
1	Not connected	6	Not connected
2	RXD	7	Not connected
3	TXD	8	Not connected
4	Not connected	9	Not connected
5	GND		



### Configuring the Serial Port

The controller's serial port should be configured as follows:

RS-232 Serial Control Protocol Settings	
Baud Rate	115200 (Default)
Data Bit	8 bits
Parity	None
Stop Bit	1 Bit
Flow Control	None

## Commands

---

Use the Telnet and RS-232 text commands to view and configure the eco PDU as described in each section. The text-based command line provides some of the same functions found under the Energy tab of the eco PDU's web-based GUI. Commands to view and configure the eco PDU are provide in the following sections. You can reference information provided in the user manual for the functions as you use the commands.

### Verification

After sending an incorrect command, a verification message appears at the end of the command line.

- ◆ **Invalid command or exceed max command length** - the command has the wrong format and/or values. Try typing in the command string again using the correct format and/or values.



## Read Outlet Status

The Read Outlet Status command allows you to view the power status of an outlet on the eco PDU.

The formula for Read Outlet Status commands is as follows:

**Command + Outlet + Number + Return String + [Enter]**

1. For example, if you want to read the status of outlet 01 with a simple return string, type the following:

**read status o01 simple [Enter]**

2. For example, if you want to read the status of outlet 12 with a format return string, type the following:

**read status o12 format [Enter]**

The following tables show the possible values for the Read Outlet Status commands:

Command	Description
read status	Read status command

Outlet	Description
o	Outlet command
xx	PDU Outlet number xx: Outlet on PDU Example: o02

Return String	Description
simple	Return simple string status
format	Return format string status

The following table lists the available Read Outlet Status commands:

Command	Outlet	Return String	Enter	Description
read status	oXX	simple	[Enter]	Read the status of outlet XX with a simple return string. XX: Outlet number
read status	oXX	format	[Enter]	Read the status of outlet XX with a format return string. XX: Outlet number

- 
- Note:** 1. Each command string can be separated with a space.
2. The **Return String** command string can be skipped and **format** will be used by default.
-

## **Switch Outlet Status**

The Switch Outlet Status command allows you to change the power status of an outlet on the eco PDU.

The formula for Switch Outlet Status commands is as follows:

**Command + Outlet + Number + Control + Option + [Enter]**

1. For example, if you want to switch off outlet 04 immediately, type the following:  
**sw o04 off imme [Enter]**
2. For example, if you want to switch on outlet 12 with the time delay set for the outlet, type the following:  
**sw o12 on delay [Enter]**
3. For example, if you want to reboot outlet 08, type the following:  
**sw o08 reboot [Enter]**

The following tables show the possible values for the Switch Outlet Status commands:

<b>Command</b>	<b>Description</b>
sw	Switch outlet status command
<b>Outlet</b>	<b>Description</b>
o	Outlet command
xx	PDU outlet number xx: Outlet on PDU Example: o02
<b>Control</b>	<b>Description</b>
on	Switch outlet on
off	Switch outlet off
reboot	Switch outlet off and then switch outlet on
<b>Option</b>	<b>Description</b>
imme	Switch outlet status immediately
delay	Switch outlet status with time delay set for the outlet

The following table lists the available Switch Outlet Status commands:

Command	Outlet	Control	Option	Enter	Description
sw	oXX	on	imme delay	[Enter]	Switch outlet XX on with option XX: Outlet number
sw	oXX	off	imme delay	[Enter]	Switch outlet XX off with option XX: Outlet number
sw	oXX	reboot		[Enter]	Read the status of outlet XX XX: Outlet number

---

**Note:** 1. Each command string can be separated with a space.

2. The **Option** command string can be skipped and **delay** will be used by default.
-

## Read Power Value

The Read Power Value command allows you to view the power measurement values of the eco PDU, Bank or Outlet.

The formula for Read Power Value commands is as follows:

**Command + Target + Number + Measurement + Return String + [Enter]**

1. For example, if you want to read the voltage measurement of outlet 12 with a simple return string, type the following:  
**read meter olt o12 volt simple [Enter]**
2. For example, if you want to read the power dissipation measurement of bank 02 with a format return string, type the following:  
**read meter bnk o02 pd format [Enter]**
3. For example, if you want to read the voltage frequency measurement of the PDU with a simple return string, type the following:  
**read meter dev freq simple [Enter]**

The following tables show the possible values for the Read Power Value commands:

Command	Description
read meter	Read power value command

Target	Description
dev	Get value from PDU
bnk	Get value from bank
olt	Get value from outlet

Number	Description
o	Target number command
xx	Bank or outlet number xx: Bank or Outlet on PDU Example: o02

Measurement	Description
curr	Read current measurement
volt	Read voltage measurement
pow	Read power measurement

Measurement	Description
pd	Read power dissipation measurement
pf	Read power factor measurement
freq	Read voltage frequency measurement

Return String	Description
simple	Return simple string measurement
format	Return format string measurement

The following table lists the available Read Power Value commands:

Command	Target	Number	Measurement	Return String	Enter	Description
read meter	dev		curr volt pow pd pf freq	simple format	[Enter]	Read PDU measurement with return string
read meter	bnk	oXX	curr volt pow pd pf freq	simple format	[Enter]	Read bank XX measurement with return string  XX: Bank number
read meter	olt	oXX	curr volt pow pd pf freq	simple format	[Enter]	Read outlet XX measurement with return string  XX: Outlet number

- Note:** 1. Each command string can be separated with a space.
2. The **Return String** command string can be skipped and **format** will be used by default.

## Read Environmental Value

The Read Environmental Value command allows you to view measurements from the eco PDU's environmental sensors.

The formula for Read Environmental Value commands is as follows:

**Command + Sensor + Number + Return String + [Enter]**

1. For example, if you want to read environmental sensor 02 with a simple return string, type the following:

**read sensor o02 simple [Enter]**

2. For example, if you want to read environmental sensor 01 with a format return sting, type the following:

**read sensor o01 format [Enter]**

The following tables show the possible values for the Read Environmental Value commands:

Command	Description
read sensor	Read environmental value command

Sensor	Description
o	Environmental sensor command
xx	Sensor number xx: Environmental sensor on PDU (01~04) Example: o02

Return String	Description
simple	Return simple string measurement
format	Return format string measurement

The following table lists the available Read Environmental Value commands:

Command	Sensor	Return String	Enter	Description
read sensor	oXX	simple format	[Enter]	Read environmental sensor XX with return string option

- Note:** 1. Each command string can be separated with a space.
2. The **Return String** command string can be skipped and **format** will be used by default.
- 

## **Close Telnet Session**

The Close Telnet Session command allows you to disconnect the telnet session from the eco PDU.

The formula for the Close Telnet Session command is as follows:

**Command + [Enter]**

1. For example, if you want to disconnect the telnet session, type the following:

**quit [Enter]**

The following table shows the value for the Close Telnet Session command:

<b>Command</b>	<b>Description</b>
quit	Close telnet session command

The following table lists the Close Telnet Session command:

<b>Command</b>	<b>Enter</b>	<b>Description</b>
quit	[Enter]	Disconnect telnet session with eco PDU



## 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.
- ◆ Avoid circuit overloads. Before connecting equipment to a circuit, know the power supply's limit and never exceed it. Always review the electrical specifications of a circuit to ensure that you are not creating a dangerous condition or that one doesn't already exist. Circuit overloads can cause a fire and destroy equipment.
- ◆ 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) 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.

## Consignes de sécurité

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### Général

- ♦ Ce produit est destiné exclusivement à une utilisation à l'intérieur.
- ♦ Veuillez lire la totalité de ces instructions. Conservez-les afin de pouvoir vous y référer ultérieurement.
- ♦ Respectez l'ensemble des avertissements et instructions inscrits sur l'appareil.
- ♦ Ne placez jamais l'unité sur une surface instable (chariot, pied, table, etc.). Si l'unité venait à tomber, elle serait gravement endommagée.
- ♦ N'utilisez pas l'unité à proximité de l'eau.
- ♦ Ne placez pas l'unité à proximité de ou sur des radiateurs ou bouches de chaleur.
- ♦ Le boîtier de l'unité est doté de fentes et d'ouvertures destinées à assurer une ventilation adéquate. Pour garantir un fonctionnement fiable et protéger l'unité contre les surchauffes, ces ouvertures ne doivent jamais être bloquées ou couvertes.
- ♦ L'unité ne doit jamais être placée sur une surface molle (lit, canapé, tapis, etc.) car ses ouvertures de ventilation se trouveraient bloquées. De même, l'unité ne doit pas être placée dans un meuble fermé à moins qu'une ventilation adaptée ne soit assurée.
- ♦ Ne renversez jamais de liquides de quelque sorte que ce soit sur l'unité.
- ♦ Evitez toute surcharge du circuit. Avant de connecter l'équipement à un circuit, vérifiez la limite de l'alimentation et ne la dépassez pas. Contrôlez toujours les caractéristiques électriques d'un circuit pour vous assurer de ne pas créer de situation dangereuse ou qu'il n'y en a pas déjà. Les surcharges du circuit peuvent provoquer un incendie et détruire l'équipement.
- ♦ Débranchez l'unité de la prise murale avant de la nettoyer. N'utilisez pas de produits de nettoyage liquide ou sous forme d'aérosol. Utilisez un chiffon humide pour le nettoyage de l'unité.
- ♦ L'appareil doit être alimenté par le type de source indiqué sur l'étiquette. Si vous n'êtes pas sûr du type d'alimentation disponible, consultez votre revendeur ou le fournisseur local d'électricité.
- ♦ Afin de ne pas endommager votre installation, vérifiez que tous les périphériques sont correctement mis à la terre.

- 
- ◆ L'unité est équipée d'une fiche de terre à trois fils. Il s'agit d'une fonction de sécurité. Si vous ne parvenez pas à insérer la fiche dans la prise murale, contactez votre électricité afin qu'il remplace cette dernière qui doit être obsolète. N'essayez pas d'aller à l'encontre de l'objectif de la fiche de terre. Respectez toujours les codes de câblage en vigueur dans votre région/pays.
  - ◆ L'équipement doit être installé à proximité de la prise murale et le dispositif de déconnexion (prise de courant femelle) doit être facile d'accès.
  - ◆ Veillez à ce que rien ne repose sur le cordon d'alimentation ou les câbles. Acheminez le cordon d'alimentation et les câbles de sorte que personne ne puisse marcher ou trébucher dessus.
  - ◆ Pour contribuer à protéger votre système contre les augmentations et diminutions soudaines et transitoires de puissance électrique, utilisez un parasurtenseur, un filtre de ligne ou un système d'alimentation sans coupure (UPS).
  - ◆ Placez les câbles du système et les câbles d'alimentation avec précaution; veillez à ce que rien ne repose sur aucun des câbles.
  - ◆ Lors du branchement ou du débranchement à des blocs d'alimentation permettant la connexion à chaud, veuillez respecter les lignes directrices suivantes:
    - ◆ Installez le bloc d'alimentation avant de brancher le câble d'alimentation à celui-ci.
    - ◆ Débranchez le câble d'alimentation avant de retirer le bloc d'alimentation.
    - ◆ Si le système présente plusieurs sources d'alimentation, déconnectez le système de l'alimentation en débranchant tous les câbles d'alimentation des blocs d'alimentation.
  - ◆ N'insérez jamais d'objets de quelque sorte que ce soit dans ou à travers les fentes du boîtier. Ils pourraient entrer en contact avec des points de tension dangereuse ou court-circuiter des pièces, entraînant ainsi un risque d'incendie ou de choc électrique.
  - ◆ N'essayez pas de réparer l'unité vous-même. Confiez toute opération de réparation à du personnel qualifié.
  - ◆ Si les conditions suivantes se produisent, débranchez l'unité de la prise murale et amenez-la à un technicien qualifié pour la faire réparer.
    - ◆ Le cordon d'alimentation ou la fiche ont été endommagés ou éraillés.
    - ◆ Du liquide a été renversé dans l'unité.
-

- ◆ L'unité a été exposée à la pluie ou à l'eau.
- ◆ L'unité est tombée ou le boîtier a été endommagé.
- ◆ Les performances de l'unité sont visiblement altérées, ce qui indique la nécessité d'une réparation.
- ◆ L'unité ne fonctionne pas normalement bien que les instructions d'utilisation soient respectées.
- ◆ N'utilisez que les commandes qui sont abordées dans le mode d'emploi. Le réglage incorrect d'autres commandes peut être à l'origine de dommages qui nécessiteront beaucoup de travail pour qu'un technicien qualifié puisse réparer l'unité.
- ◆ Ne connectez pas le connecteur RJ-11 portant la marque « Sensor » (Capteur) à un réseau de télécommunication public.

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## **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 Lok-U-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 Lok-U-Plugs.

## **Montage sur bâti**

- ♦ Avant de travailler sur le bâti, assurez-vous que les stabilisateurs sont bien fixés sur le bâti, qu'ils sont étendus au sol et que tout le poids du bâti repose sur le sol. Installez les stabilisateurs avant et latéraux sur un même bâti ou bien les stabilisateurs avant si plusieurs bâtis sont réunis, avant de travailler sur le bâti.
- ♦ Chargez toujours le bâti de bas en haut et chargez l'élément le plus lourd en premier.
- ♦ Assurez-vous que le bâti est à niveau et qu'il est stable avant de sortir une unité du bâti.
- ♦ Agissez avec précaution lorsque vous appuyez sur les loquets de libération du rail d'unité et lorsque vous faites coulisser une unité dans et hors d'un bâti ; vous pourriez vous pincer les doigts dans les rails.
- ♦ Une fois qu'une unité a été insérée dans le bâti, étendez avec précaution le rail dans une position de verrouillage puis faites glisser l'unité dans le bâti.
- ♦ Ne surchargez pas le circuit de l'alimentation CA qui alimente le bâti. La charge totale du bâti ne doit pas dépasser 80 % de la capacité du circuit.
- ♦ Assurez-vous que tous les équipements utilisés sur le bâti, y-compris les multiprises et autres connecteurs électriques, sont correctement mis à la terre.
- ♦ Assurez-vous que les unités présentes dans le bâti bénéficie d'une circulation d'air suffisante.
- ♦ Assurez-vous que la température ambiante de fonctionnement de l'environnement du bâti ne dépasse pas la température ambiante maximale spécifiée pour l'équipement par le fabricant.
- ♦ Ne marchez sur aucun appareil lors de la maintenance d'autres appareils d'un bâti.

## **Le cordon d'alimentation principale de l'unité d'alimentation éco**

Utilisez le câble d'alimentation fourni. Au cas où il s'avèrerait nécessaire de remplacer le cordon fourni avec l'appareil, veillez à utiliser un cordon respectant au minimum la même norme que celui d'origine.

## **Fixation des câbles d'alimentation**



Pour fixer les câbles aux sorties d'alimentation de l'unité d'alimentation éco, utilisez uniquement les supports de câble Lok-U-Plug d'ATEN qui ont été conçus spécialement pour être utilisés



avec l'unité d'alimentation éco. L'utilisation de tout autre type système de fixation de câble pourrait s'avérer très dangereuse. Veuillez contacter votre revendeur ATEN pour plus d'informations sur le support de câble ATEN Lok-U-Plug.

## Technical Support

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### International

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

### North America

Email Support		<a href="mailto:support@aten-usa.com">support@aten-usa.com</a>
Online Technical Support	Troubleshooting Documentation Software Updates	<a href="http://eservice.aten.com">http://eservice.aten.com</a>
Telephone Support		1-888-999-ATEN ext 4988 1-949-428-1111

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.

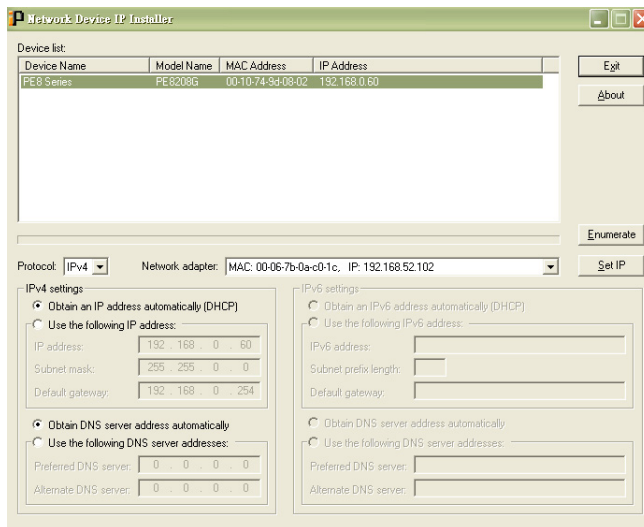
## IP Address Determination

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 its fixed network address. (See *Notification Settings*, page 46.)

### Method 1:

For computers running Windows, an IP address can be determined and/or assigned with the IP Installer utility. The utility can be obtained from the *Download* area of our web site or from the software CD. 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:



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

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**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, and you will be able to connect.
3. Assign a fixed IP address for the device (see *IPv4 Configuration*, page 49), 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 49).

### **Method 3:**

NRGence eco Sensors 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. NRGence eco Sensors can be obtained from the Download area of the ATEN web site.

# Specifications

## PE6108AVA

Function	PE6108AVA
<b>Electrical</b>	
Nominal Input Voltage	100-120VAC
Maximum Input Current	15A (Max), 12A (UL de-rated)
Frequency	50-60Hz
Input Connection	For A/J Plug: NEMA 5-15P
Input Power	1800VA (Max), 1440VA (UL de-rated)
Outlet Type	Total: 8 x NEMA 5-15R
Nominal Output Voltage	100-120VAC
Maximum Output Current (Outlet)	NEMA 5-15R: 15A (Max) 12A (UL de-rated)
Maximum Output Current (Bank)	15A (Max) 12A (UL de-rated)
Maximum Output Current (Total)	15A (Max) 12A (UL de-rated)
Metering	Per Bank Level Current, Voltage, VA, PF and kWh Monitoring
Outlet Switching	Yes
Environment Sensor Ports	2
Metering Accuracy	Voltage range: 100VAC-250VAC +/- 1% Power range: 100W-5000W +/- 2% Current range: 0.1A-1A +/- 0.1A, 1A-20A +/- 1%
<b>Communication</b>	
10/100 Mbps	1 x RJ-45
RS-232	1 x DB-9
<b>Switches</b>	
Power	Yes
<b>Physical Properties</b>	
Dimensions (L x W x H)	43.24 x 26.73 x 4.40 cm <sup>3</sup> (17.02 x 10.52 x 1.73 in. <sup>3</sup> )
Weight	3.70kg (8.15lb)
Power Cord Length	3m
<b>Environmental</b>	
Temperature (Operating / Storage)	0-45°C / -20-60°C
Humidity (Operating & Storage)	0-80% RH, Non-Condensing

Function	PE6108AVA
<b>Compliance</b>	
EMC Verification	FCC, J55032
Safety Verification	PSE

**PE6208AVA / PE6208AVB / PE6208AVG / PE6208AVX**

Function	PE6208AVA	PE6208AVB	PE6208AVG	PE6208AVX
<b>Electrical</b>				
Nominal Input Voltage	100-120VAC	100-240VAC	100-240VAC	100-240VAC
Maximum Input Current	20A (Max), 16A (UL de-rated)	20A (Max), 16A (UL de-rated)	16A (Max)	16A
Frequency	50-60Hz			
Input Connection	A/J:NEMA L5-20P A2/J2: NEMA 5-20P	NEMA 6-20P	IEC 60320 C20	Terminal Block (3P)
Input Power	2400VA (Max), 1920VA (UL de-rated)	4600VA (Max), 3680VA (UL de-rated)	3680 VA (Max)	4800VA (Max)
Outlet Type	Total: 8 x NEMA 5-20R	Total: 8 x IEC320 C13	Total: 8 x IEC320 C13	Total: 8 x Terminal Block (3P)
Nominal Output Voltage	100-120VAC	100-240VAC	100-240VAC	100-240VAC
Maximum Output Current (Outlet)	NEMA 5-20R: 20A (Max) 16A (UL de-rated)	C13: 15A (Max) 12A (UL de-rated)	C13: 10A	16A (Max)
Maximum Output Current (Bank)	20A (Max) 16A (UL de-rated)	20A (Max) 16A (UL de-rated)	16A (Max)	16A (Max)
Maximum Output Current (Total)	20A (Max) 16A (UL de-rated)	20A (Max) 16A (UL de-rated)	16A (Max)	16A (Max)
Metering	Per Bank Level Current, Voltage, VA, PF and KWh Monitoring			
Outlet Switching	Yes			
Environment Sensor Ports	2			
Metering Accuracy	Voltage range: 100VAC-250VAC +/- 1% Power range: 100W-5000W +/- 2% Current range: 0.1A-1A +/- 0.1A, 1A-20A +/- 1%			
<b>Communication</b>				
10/100 Mbps	1 x RJ-45			
RS-232	1 x DB-9			
<b>Switches</b>				
Power	Yes			
<b>Physical Properties</b>				
Dimensions (L x W x H)	43.24 x 26.72 x 4.40 cm <sup>3</sup> (17.02 x 10.52 x 1.73 in. <sup>3</sup> )			
Weight	3.76kg (8.28lb)			

Function	PE6208AVA	PE6208AVB	PE6208AVG	PE6208AVX
Power Cord Length	3m	3m	3m	N.A.
<b>Environmental</b>				
Temperature (Operating / Storage)	0-50°C / -20-60°C	0-50°C / -20-60°C	0-40°C / -20-60°C	0-50°C / -20-60°C
Humidity (Operating & Storage)	0-80% RH, Non-Condensing			
<b>Compliance</b>				
EMC Verification	FCC, J55032	FCC Others by Request	CE-EMC, FCC, J55032 Others by Request	FCC, CE
Safety Verification	PSE	Others by Request	CE-LVD, Others by Request	CE, LVD



**PE6208AVJ Japan**

型番	PE6208AVJ
<b>電気仕様</b>	
定格入力電圧	AC100-240V
最大入力電流	20A (最大)、16A (UL ディレターティング)
入力周波数	50-60 Hz
入力側インターフェース	IEC C20×1 (リア側)
負荷容量	4160 VA (最大)、3328 VA (UL ディレターティング)
アウトレットタイプ	合計：C13×8 (リア側)
定格出力電圧	AC100-240V
最大出力電流 (アウトレット)	C13:15A (最大)、12A (UL ディレターティング)
最大出力電流 (バンク)	20A (最大)、16A (UL ディレターティング)
最大出力電流 (合計)	20A (最大)、16A (UL ディレターティング)
計測	バンク単位で電流・電圧・電力・力率・ワット時を監視
アウトレット切替	対応
電源スイッチ	あり (リア側)
環境センサーポート	2
計測精度	電圧：AC100-250V ±1% 電力：100-5000W ±2% 電流：0.1-1A ±0.1A, 1-20A ±1%
<b>物理仕様</b>	
1U サイズ (W x D x H)	432.4 × 258.4 × 44 mm
船積寸法 (W x D x H)	未定
重量 / 船積重量	4.94 kg
電源ケーブル長	3 m

(Continues on next page.)

型番	PE6208AVJ
<b>コネクタ</b>	
LAN	RJ-45×1 (リア側)
センサーポート	RJ-11×2 (リア側、49 cm カテゴリ 5 ケーブル)
RS-232	DB-9×1 (リア側)
<b>ボタン</b>	
リセット	ピンホール型スイッチ ×1 (フロント側) ピンホール型スイッチ ×1 (リア側)
選択	プッシュボタン ×1 (フロント側)
リモート ON/OFF& 電源 ON/OFF	プッシュボタン ×8 (フロント側)
<b>LED</b>	
電流 /IP	7セグメントデジタル表示 ×2 (フロント側)
10/100 Mbps	オレンジ / グリーン ×1 (フロント側)
リモートアクセス	グリーン ×8 (フロント側)
オンライン	オレンジ ×8 (フロント側)
電流	レッド ×1 (フロント側)
リンク	グリーン ×1 (フロント側)
センサー	グリーン ×2 (リア側)
電源	ブルー ×1 (フロント側)
<b>動作環境</b>	
温度 (動作 / 保管)	0-50 °C / -20-60 °C
湿度 (動作&保管)	0-80% RH, 結露なきこと
<b>規格準拠</b>	
EMC 認証	J55022
安全性検証	PSE

**PE8208AVB / PE8208AVG**

Function		PE8208AVB	PE8208AVG
Power Outlets	Direct	8	
Connectors	Power Inlet	1 x IEC 320 C20	
	Power Outlets	8 x IEC 320 C13	
	Sensor	2 x RJ-11	
	LAN	1 x RJ-45 (F)	
	RS-232	1 x DB-9 (M)	
LEDs	Current / IP	2-digit 7-segment (Yellow)	
	Outlet Power	8 (Orange)	
	Local	8 (Green)	
	Current	1 (Red)	
	Link	1 (Green)	
	Sensor	2 (Green)	
	Power	1 (Blue)	
	LAN	10/100M	1 (Orange / Green)
Switches	Reset	2 x Semi-recessed Pushbutton	
	Power	1 x Rocker	
	Remote/Outlet ON/Off	8 x Pushbutton	
	Current / IP	1 x Pushbutton	
I/P Rating		100–240V~; 50-60Hz; 20A (Max); 16A (UL de-rated)	100–240V~; 50-60Hz; 16A
Load Capacity		4160 VA (Max)	3680 VA (Max)
O/P Rating	Per Port	100–240V~; 50-60Hz; 15A (Max); 12A (UL de-rated)	100–240V~; 50-60Hz; 10A (Max)
	Per Bank	100–240V~; 50-60Hz; 20A (Max); 16A (UL de-rated)	100–240V~; 50-60Hz; 16A (Max)
	Total	100–240V~; 50-60Hz; 20A (Max); 16A (UL de-rated)	100–240V~; 50-60Hz; 16A (Max)
Environment	Operating Temperature	0–50°C	
	Storage Temperature	-20–60°C	
	Humidity	0–80% RH Non-condensing	
Physical Properties	Housing	Metal	
	Weight	TBD	TBD
	Dimensions (L x W x H)	43.24 x 4.40 x 25.84 cm	

**PE8208AVJ Japan**

型番	PE8208AVJ
<b>電気仕様</b>	
定格入力電圧	AC100-240V
最大入力電流	20A (最大)、16A (UL ディレーティング)
入力周波数	50-60 Hz
入力側インターフェース	IEC C20×1 (リア側)
負荷容量	4160 VA (最大)、3328 VA (UL ディレーティング)
アウトレットタイプ	合計 : C13×8 (リア側)
定格出力電圧	AC100-240V
最大出力電流 (アウトレット)	C13:15A (最大)、12A (UL ディレーティング)
最大出力電流 (バンク)	20A (最大)、16A (UL ディレーティング)
最大出力電流 (合計)	20A (最大)、16A (UL ディレーティング)
計測	アウトレット単位で電流・電圧・電力・力率・ワット時を監視
アウトレット切替	対応
電源スイッチ	あり (リア側)
環境センサーポート	2
計測精度	電圧 : AC100-250V ±1% 電力 : 100-5000W ±2% 電流 : 0.1-1A ±0.1A, 1-20A ±1%
<b>物理仕様</b>	
1U サイズ (W x D x H)	432.4 x 258.4 x 44 mm
船積寸法 (W x D x H)	未定
重量 / 船積重量	未定
電源ケーブル長	3 m

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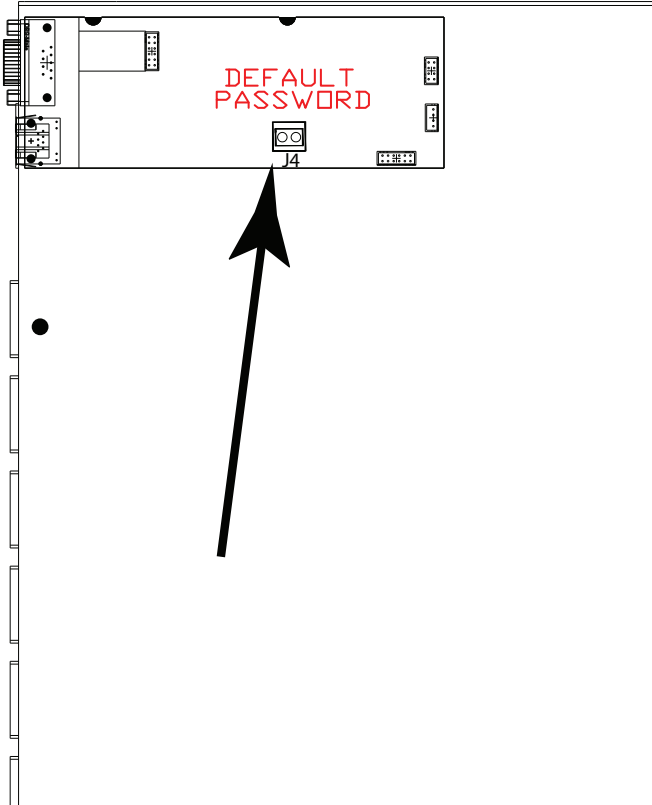
型番	PE8208AVJ
<b>コネクタ</b>	
LAN	RJ-45×1 (リア側)
センサーポート	RJ-11×2 (リア側、49 cm カテゴリ 5 ケーブル)
RS-232	DB-9×1 (リア側)
<b>ボタン</b>	
リセット	ピンホール型スイッチ ×1 (フロント側) ピンホール型スイッチ ×1 (リア側)
選択	プッシュボタン ×1 (フロント側)
リモート ON/OFF& 電源 ON/OFF	プッシュボタン ×8 (フロント側)
<b>LED</b>	
電流 /IP	7セグメントデジタル表示 ×2 (フロント側)
10/100 Mbps	オレンジ / グリーン ×1 (フロント側)
リモートアクセス	グリーン ×8 (フロント側)
オンライン	オレンジ ×8 (フロント側)
電流	レッド ×1 (フロント側)
リンク	グリーン ×1 (フロント側)
センサー	グリーン ×2 (リア側)
電源	ブルー ×1 (フロント側)
<b>動作環境</b>	
温度 (動作 / 保管)	0-50 °C / -20-60 °C
湿度 (動作&保管)	0-80% RH、結露なきこと
<b>規格準拠</b>	
EMC 認証	J55022
安全性検証	PSE

## Administrator Login Failure

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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 J4 (PIN1 and PIN2).



3. Power on the eco PDU.
4. When the 2-digit, 7-segment display shows "00", power off the switch.
5. Remove the jumper cap from J4.
6. Close the housing and start the eco PDU.  
After you start, you can use the default Username and Password to log in.

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## Limited Warranty

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ATEN warrants its hardware in the country of purchase against flaws in materials and workmanship for a Warranty Period of two [2] years (warranty period may vary in certain regions/countries) commencing on the date of original purchase. This warranty period includes the LCD panel of ATEN LCD KVM switches. Select products are warranted for an additional year (see *A+ Warranty* for further details). Cables and accessories are not covered by the Standard Warranty.

### **What is covered by the Limited Hardware Warranty**

ATEN will provide a repair service, without charge, during the Warranty Period. If a product is defective, ATEN will, at its discretion, have the option to (1) repair said product with new or repaired components, or (2) replace the entire product with an identical product or with a similar product which fulfills the same function as the defective product. Replaced products assume the warranty of the original product for the remaining period or a period of 90 days, whichever is longer. When the products or components are replaced, the replacing articles shall become customer property and the replaced articles shall become the property of ATEN.

To learn more about our warranty policies, please visit our website:

<http://www.aten.com/global/en/legal/policies/warranty-policy/>

