VERICOM®

VPN Series PDUs

EMD sensor   Network 10/100

Reset

220.8

1.16A 1P PDU sequence: V->A->KWxh

2.32A 1P PDU sequence: V->
Circuit Breaker 1 (br1->A)->
Circuit Breaker 2 (br2->A)->

User Manual

Table of Contents

Preface

About this Manual

Congratulations on purchasing a Vericom PDU. This user manual provides detailed descriptions of the hardware components and how to use the product. Read this manual carefully and follow the instructions before installing.

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Preface

Safety Instructions

Follow these safety instructions to avoid injury to yourself and damage to the PDU.

- To reduce the risk of fire or electric shock, install the unit in a temperature-controlled indoor area free of conductive contaminants. Do not place the unit near liquids or in an excessively humid environment.

- Do not allow liquids or foreign objects to enter the unit.

- The unit does not contain any user-serviceable parts.

- Do not open the unit.

- Servicing, maintenance, and repair for this equipment must be performed by qualified service personnel. Remove rings, watches and other jewelry before servicing the unit.

- Before maintenance, repair or shipment, the unit must be completely switched off and unplugged and all connections must be removed.

- Before plugging in the power cord of the device, make sure that the power source rating matches the power rating indicated on the product labels.

- Use a harmonized and certified power cord when connecting any device to the outlets.

- The digital outputs on the EMD can only connect switches, indicators, or other output devices that are normally open or normally closed.

Preface

Safety Notices

	Caution:
⚠	This unit has been provided with a real time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with a 3V Lithium cell (CR1220) or equivalent type. Discard used batteries according to the manufacturer's instructions.

	Caution:
⚠	Rack-Mounted Equipment – The unit is intended to be rack-mounted, the installation instructions shall contain wording to address the following concerns when the unit is mounted in a rack system.

"The equipment is to be installed in an environment with a maximum ambient temperature of 60° C."

"The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS."

"Lay this equipment on a reliable surface when installing. A drop or fall could cause injury."

"The equipment shall be installed according to the specifications indicated on the product label. Ensure the voltage of the power source matches the stated voltage of the PDU, and that the total current and output power of the load do not exceed the specifications."

"This equipment must be connected to a reliable earthing system before using."

Product Introduction

The Vericom VPN PDU is an intelligent power strip designed to monitor input and circuit breaker power consumption and automatically email usage history data to management for billing purposes.

VPN Series PDUs are also equipped with a port for connecting up to 8 EMD (Environmental Monitoring Device) sensors in a daisy chain for monitoring temperature and humidity. In addition, each EMD sensor includes two digital ports for connecting other types of sensors, such as a smoke detector, flood detector, or door contact sensor.

Features

- Calculates the power consumption on an hourly and daily basis.

- Provides detailed data logging for statistical analysis and diagnostics, with an auto-generated history report emailed daily.

- Event notification by pop-up/Sending Trap or email.

- Versatile sensors supported though EMD (Environmental Monitoring Device) inputs, 8 sensors can be deployed in cascade.

- Comprehensive power management and flexible configuration though web browser, NMS, Telnet, SNMP V1,2,3.

- Supports Secure Socket Layer V3 and Secure Shell V2 protocols.

- Administrator and multiple users with password protection for double-layer security.

- Address-specific IP security masks to prevent unauthorized access.

- User-friendly interface to display input and output status.

- Upgrade Utility for easy firmware upgrades.

Product Introduction

Package Contents

Make sure the PDU package has the following items. If any of the items are missing or damaged, contact your Vericom representative.

1. PDU

2. Mounting Brackets (x2)

3. Button Mounts (x2)

4. Toolless Mounting Brackets (x2)

5. Button Mount Brackets (x2)

6. Screws (x8)

7. Quick Install Guide
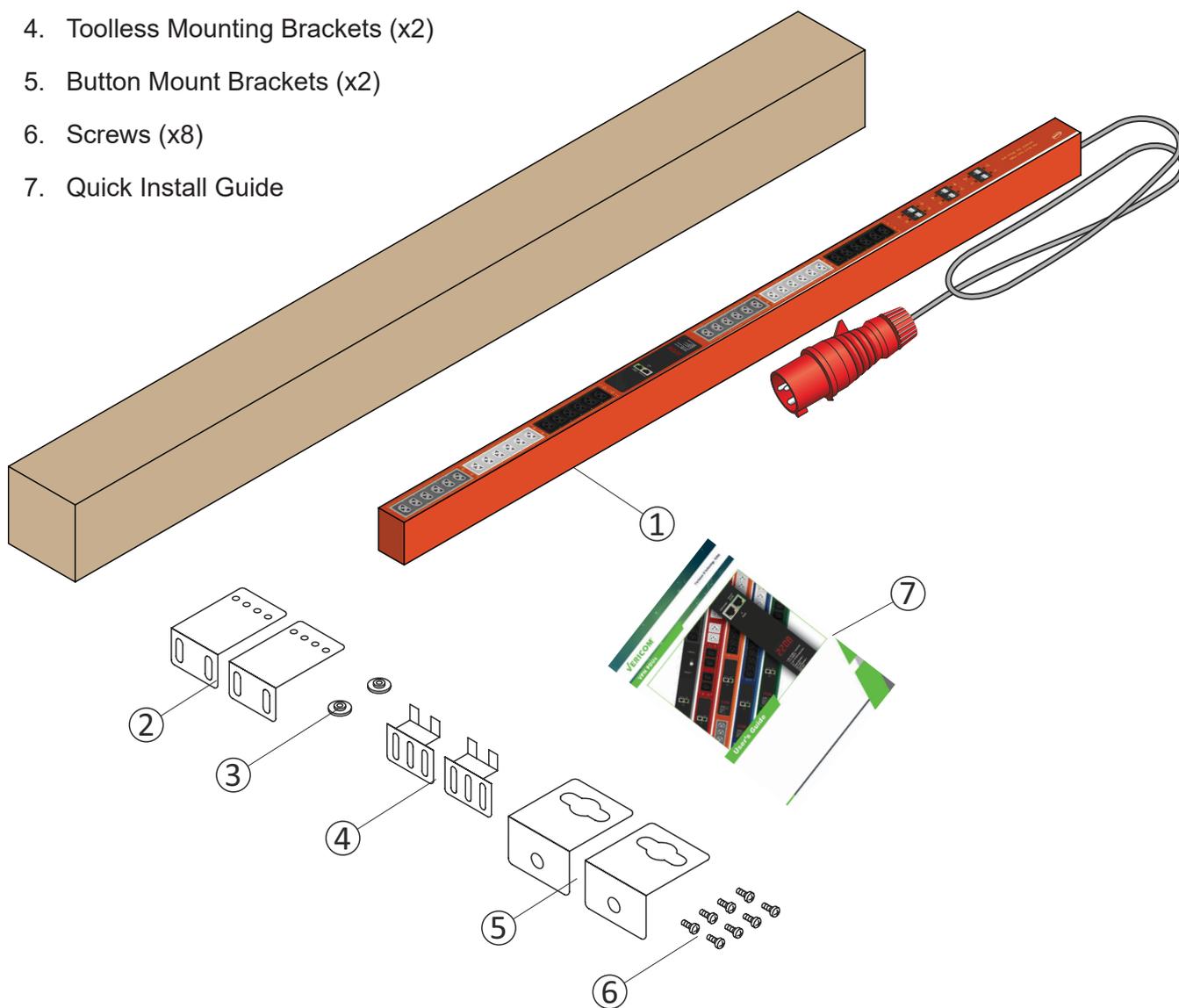
Getting Started

This section provides information about setting up a Vericom VPN Series PDU, connecting power, and connecting devices to it prior to using it for power management. Read this section carefully to learn how to connect various devices to the PDU.

Rack Mounting

Vericom PDUs can be installed in most standard racks using the various types of brackets and button mounts included in this package:

Option 1: Insert the toolless mounting brackets into the ends of the PDU (note the brackets can face all four sides of the PDU; be sure to insert them so that the outlets face the desired direction), then mount the PDU to rack rails using user supplied mounting hardware.

Option 2: Fix the button mounts in the desired position (note the button mounts can be positioned anywhere along the PDU), then mount the PDU into the button mount holes of your rack.

Option 3: Attach the mounting brackets in the desired position (note the brackets can be positioned anywhere along the PDU), then mount the PDU to the rack rails using the user supplied mounting hardware.

Option 4: Fix the button mounts in the desired position (note the buttons can be positioned anywhere along the PDU), mount the bracket onto the buttons, and then mount the bracket buttons into the button mount holes of your rack.
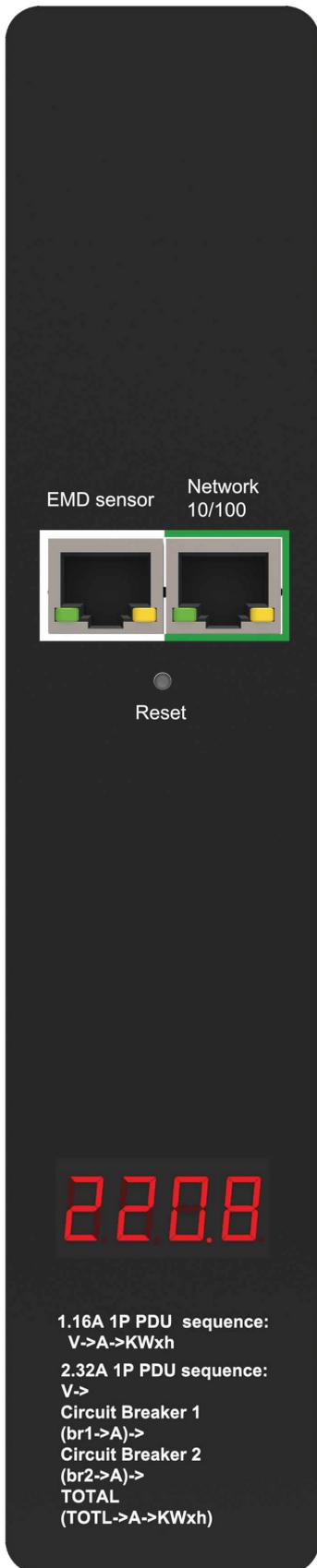
Vericom VPN Series PDUs are a versatile product that can be connected to several different types of input and output devices. This makes it a useful tool for delivering and monitoring power to connected devices.

Temperature and humidity can be monitored via a connected EMD (Environmental Monitoring Device) sensor. Each EMD includes two ports for connecting additional open/close type sensors, such as smoke, vibration, and flood detectors.

A single 10/100 Ethernet (LAN/WAN) port is included to allow users to configure and monitor the PDU remotely.

Status Display

The front panel of the VPN Series PDU has a digital display that provides information about the input power status.

EMD sensor

Network 10/100

Reset

1.16A 1P PDU sequence:
 V->A->KWxh

2.32A 1P PDU sequence:
V->
Circuit Breaker 1
(br1->A)->
Circuit Breaker 2
(br2->A)->
TOTAL
(TOTL->A->KWxh)

Getting Started

The following is an overview of the basic steps needed to set up the VPN Series PDU:

1. To set up the hardware, connect the PDU power cord to a power supply and the equipment power cords to the PDU outlets. If using the EMD sensor, connect it to the EMD port on the PDU and connect any additional open/close sensors to the EMD.

2. To configure the PDU, users must use the LAN port. Connect the device to a Ethernet to enable its configuration through the browser menu.

3. Use a console application such as Telnet or Hyper Terminal to access the console menu. Select the TCP/IP submenu under the Network Management to set up the IP address and select the General Setting submenu under the System Management to set up the system date/time. This IP address will be used while accessing the web interface to configure the PDU parameters.

4. After connecting to a LAN, open a browser from a PC in the network and use the IP address specified through the console menu to open the PDU web interface for system configuration.

Getting Started

The following sections provide instructions on how to make various connections.

Connecting Input Power

Vericom PDUs are available with a variety of NEMA and IEC309 plugs based on the required phase, voltage, and current of the installation. Be sure to only connect each type of plug into a corresponding outlet type.

Connecting Output Devices

Vericom PDUs are available with a variety of outlet types and quantities for connecting equipment such as servers, switches, and routers. Connect equipment power cords to corresponding outlet types on the PDU.

Vericom PDUs are available with the following outlets:

220V/10A, IEC C13 (Lock)

220V/16A, IEC C13/C19 combo

120V/15A: NEMA 5-15P

120V/20A: NEMA 5-20P

Connecting an EMD

An Environmental Monitoring Device (EMD) that includes sensors for detecting temperature and humidity can be connected to Vericom PDUs via an Ethernet cable to the EMD Sensor port. Up to 8 EMD sensors can be connected in a daisy chain to monitor the temperature and humidity in different parts of a rack. In addition, up to 2 open/close sensors, such as smoke, vibration, and/or flood detectors, can be connected to each EMD.

Connecting digital input sensors

Each EMD can support 2 digital input sensors, such as smoke, water, or vibration sensors, door contacts, or any other sensor with open/close functionality.

EMD sensor

Network 10/100

Reset

2 2 0 . 8

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Circuit Breaker 2
(br2->A)->
TOTAL
(TOTL->A->KWxh)

Smoke Sensor

Door Contact

Vibration Sensor

EMD (Tem & Hum) Sensor

Water Leak Rope
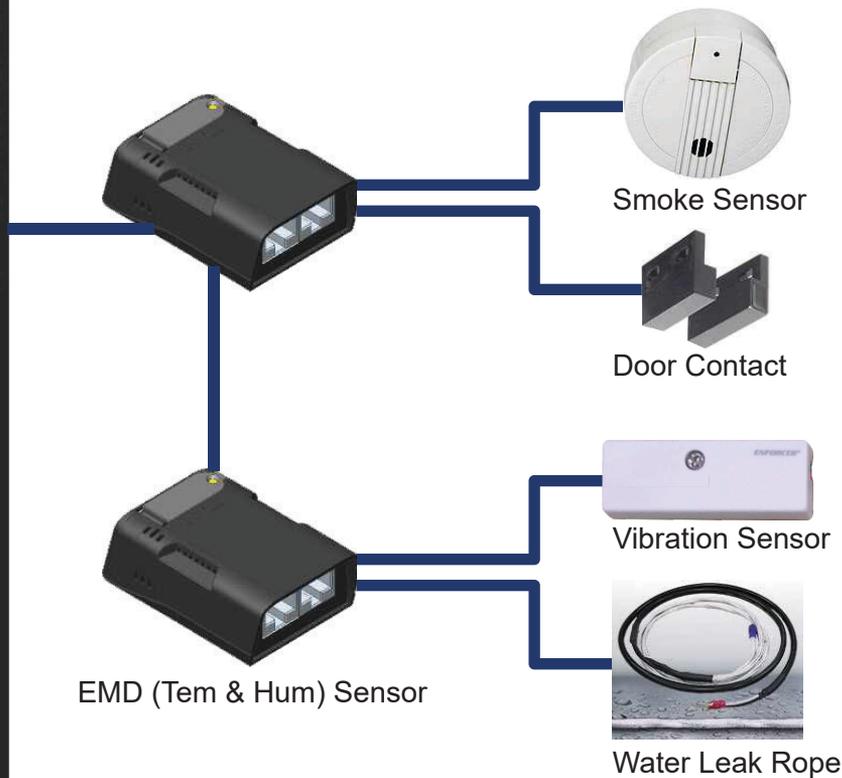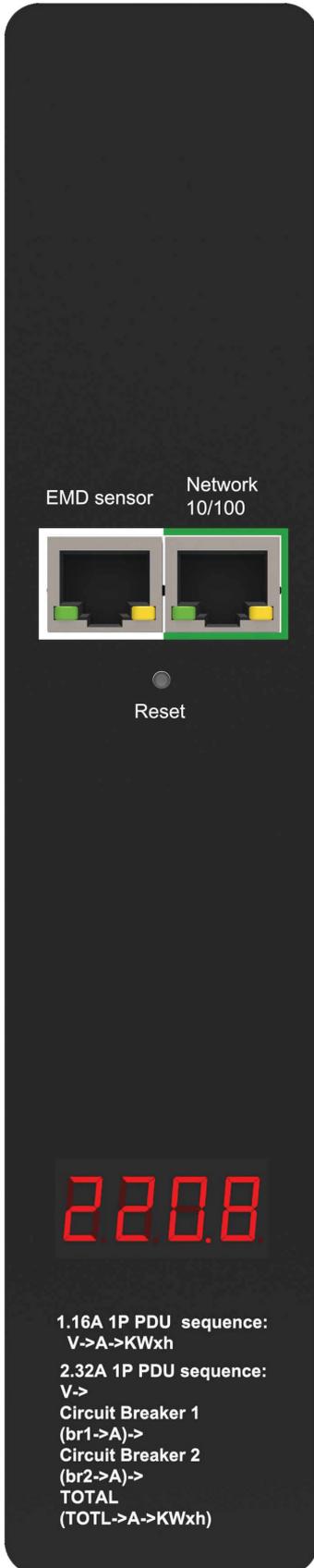
Getting Started

After connecting the EMD, open a web browser from a PC and enable environmental sensors on the web user interface. The temperature and humidity status will now be automatically displayed on the System Overview page.
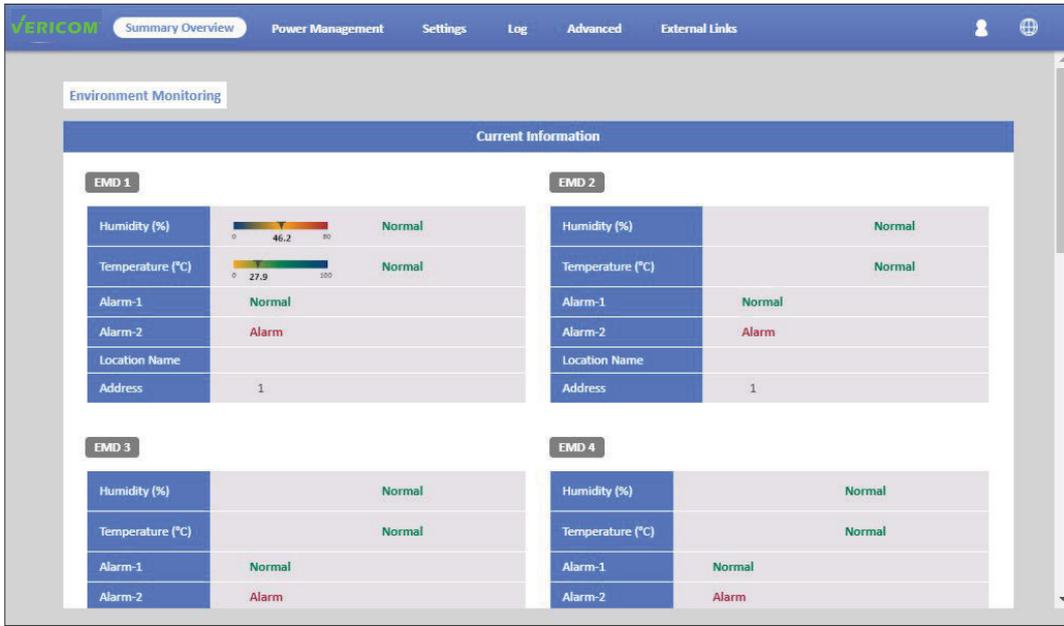
Connecting to a LAN/WAN

Vericom PDUs have a graphic user interface that allows users to control the device through a web browser. Simply connect the PDU to a free port on a router using an Ethernet cable. Users can control the PDU from a PC, laptop, or mobile device connected to the internet. Refer to page 15 for details.

Getting Started

Using (RCM) Residual Current Monitoring:

When a residual current device is triggered, the display will flash a "WARNING" sign as shown.

Residual Current Monitoring is an optional feature and not included on all models.

Users can customize the residual current settings from the Inlet Configuration webpage as shown.

1. The alarm threshold setting range is 2mA to 50mA (the default setting is 20mA). An alarm is triggered anytime the residual current is greater than or equal to the threshold value.

2. When DC residual current is greater than or equal to 5mA, an alarm is triggered.

3. When AC residual current is greater than or equal to 20mA, an alarm is triggered.

4. When the alarm threshold value setting is less than or equal to 5mA, and alarm is triggered if the AC or DC residual current is active.

5. When the alarm threshold value setting is less than or equal to 20mA, and alarm is triggered if the AC residual current is active, while the DC residual current will be ignored.

Using the Web Interface

Vericom Smart PDUs provide a graphical user interface that can be viewed from a web browser. This enables users to access the PDU to set parameters and monitor power usage remotely from a user's desktop, laptop, PDA, or even a mobile phone. This section provides instructions on how to use the web interface to configure and control the PDU remotely.

Summary Overview-System Overview

Launch a web browser from the host PC or laptop and enter the IP address of the PDU in the address bar (for details about setting the IP address of the system, refer to instructions on page 10). You will be prompted to enter a Username and Password. Click Go and the main status page of the Vericom PDU web interface is displayed.

The default settings are:

DHCP: Enabled

IP Address: 192.168.1.250

Subnet Mask: 255.255.255.0

Gateway: 192.168.1.10

Username: admin

Password: admin
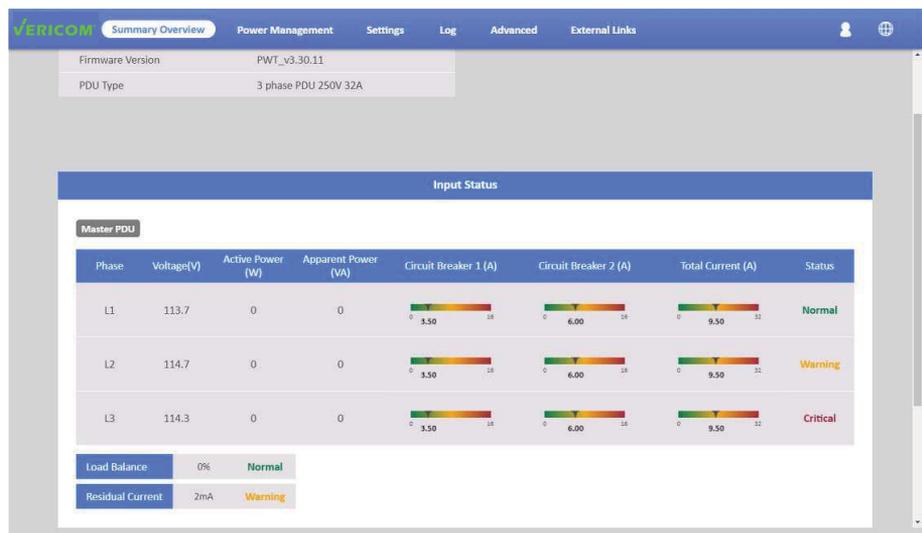
The main page shows a graphical representation of the PDU input status as described below:

•   The panel shows the various menus and submenus. Click any menu to display the options, expand the menu items, and modify the menu options as required.

•   The right panel shows the current status of the PDU.

Using the Web Interface

Summary Overview-Alarm List

The "Alarm List" page shows the list of alarms that were set by the user. The PDU will follow the rules of an alarm to send out notifications to the user.

Summary Overview-Network Connection

The Network Connection page shows a list of user's connections.

Using the Web Interface

Power Management-Inlet Configuration

This page lets the user configure Inlet load. You can set the condition of "Critical" and "Warning". (The value of "Critical" must be larger than "Warning").

When Inlet Power is higher than the parameter you set, the status light will change color (red for Critical, Yellow for Warning, and Green for Normal) and you will receive a notification email if you have set it up in Email Notification.

Using the Web Interface

Power Management-Environment Monitoring

This page shows the status of EMD sensors and lets users set alarm configurations. You can set alarm parameters for "Critical" and "Warning" (the value of "Critical" must be larger than "Warning). Email Notification rules can also be set from this page.

Vericom Smart PDUs support up to 8 EMD sensors in daisy chain. Each EMD sensor includes two digital inputs for connecting additional sensors with open/close functionality. Alarms can be set for each input: Normal Open, Normal Close, and Disable. For example, if Normal Open is selected, a "Warning" alarm with a yellow light will be triggered anytime the sensor circuit is closed.

Network-TCP/IP

This page lets users enable DHCP and set an IP address manually.
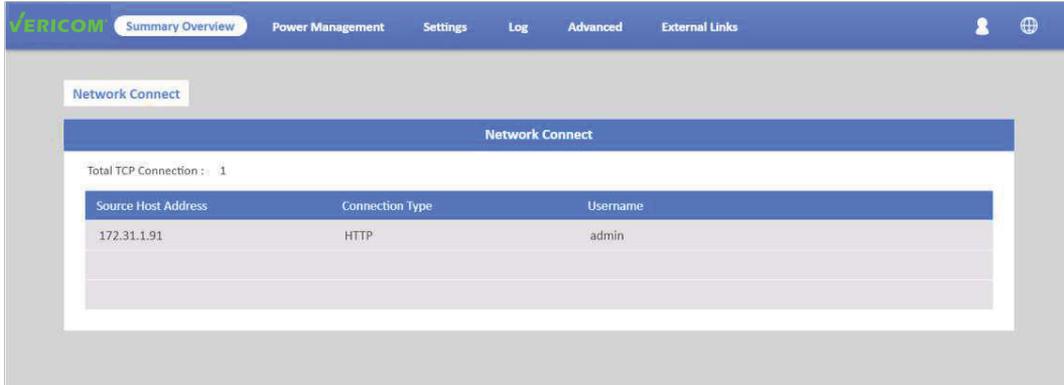
Network Management-Accessible IP Setting

This page lets users add/delete/modify accessible IP list.
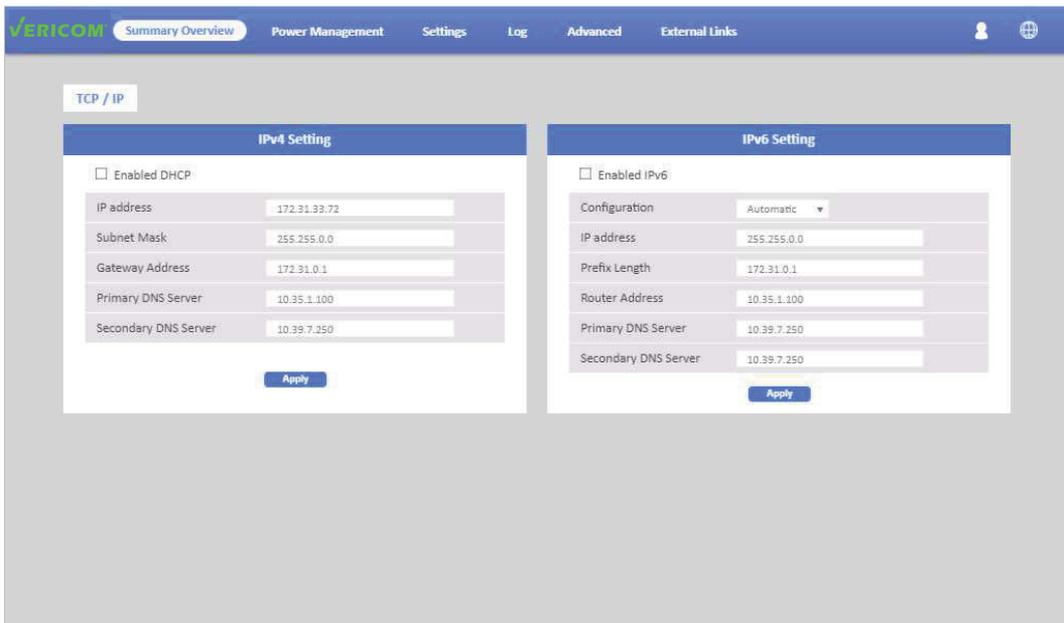
Using the Web Interface

Network Management-Security

This page lets users enable Network Access Protection and manually set parameters for SSH, SNMPv3, and HTTP(S).
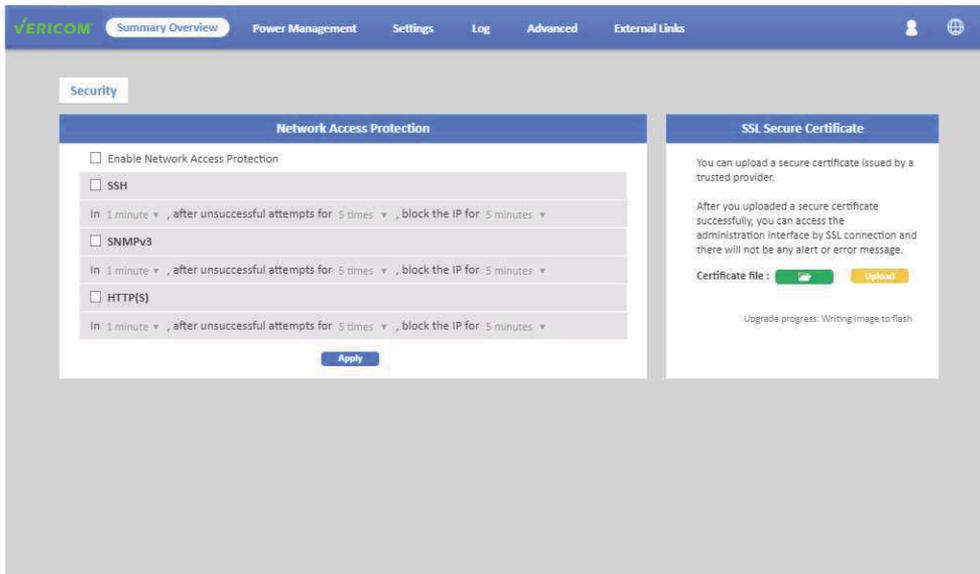
Network Management-Network Service

This page lets users set SSH/SSL/Ping/RADIUS parameters. If a user wants to add a Radius User (from Settings menu), they must "Enable RADIUS" on this page first.
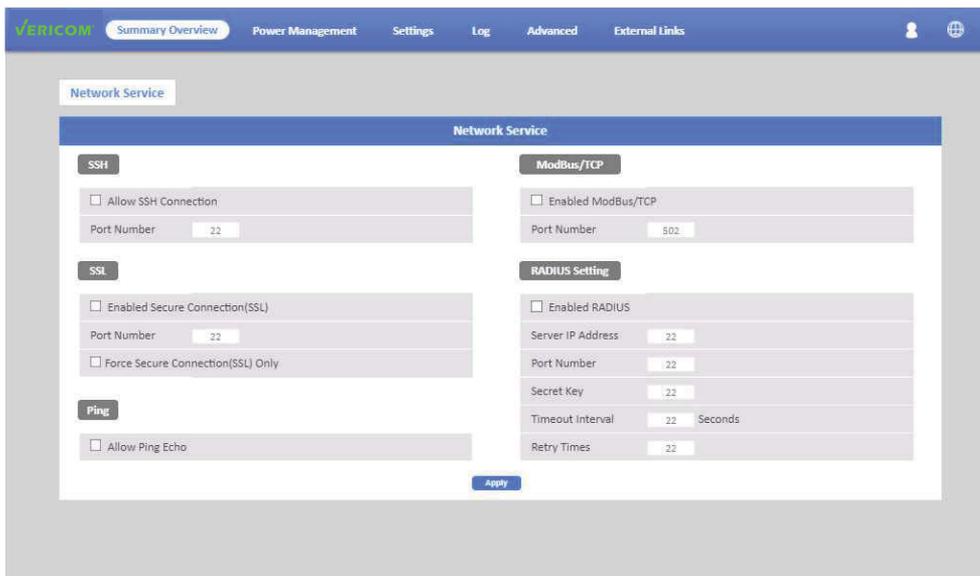
Using the Web Interface

Network Management-SNMP Segments

This page lets users set the SNMP Agent.

Network Management-SNMP Trap Segmenting

This page lets users add/delete/modify SNMP trap settings.

Using the Web Interface

General Settings

This page lets the user set General Settings.

User Management

This page lets the user enable new users and passwords.

Using the Web Interface

Maintenance

This page lets the user set Restart/Upgrade/Reboot.
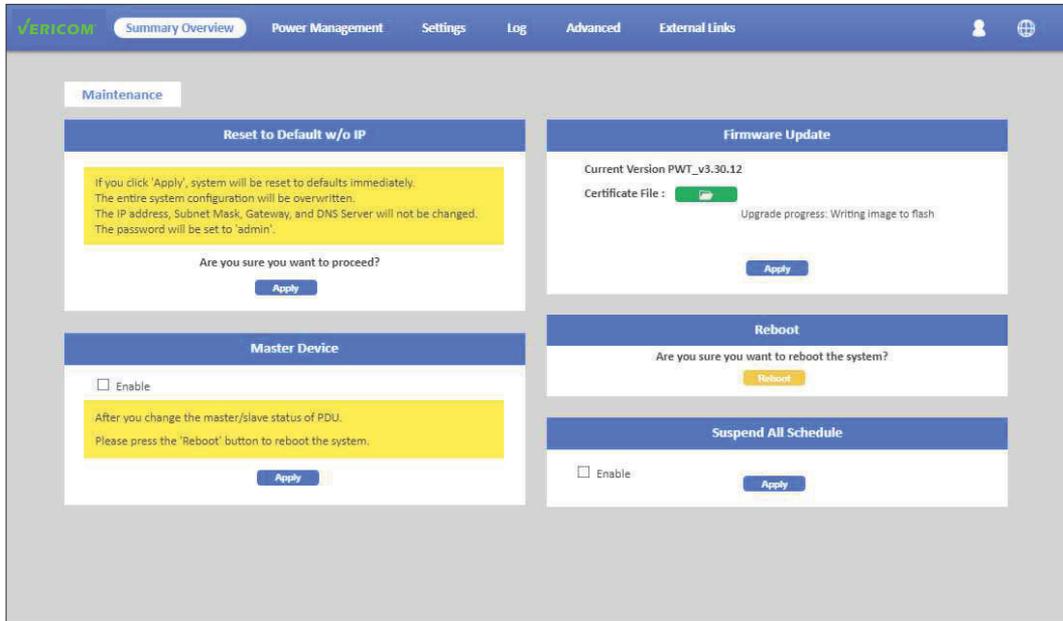
Import/Export

This page lets users import/export an XML file to restore/download the configuration.
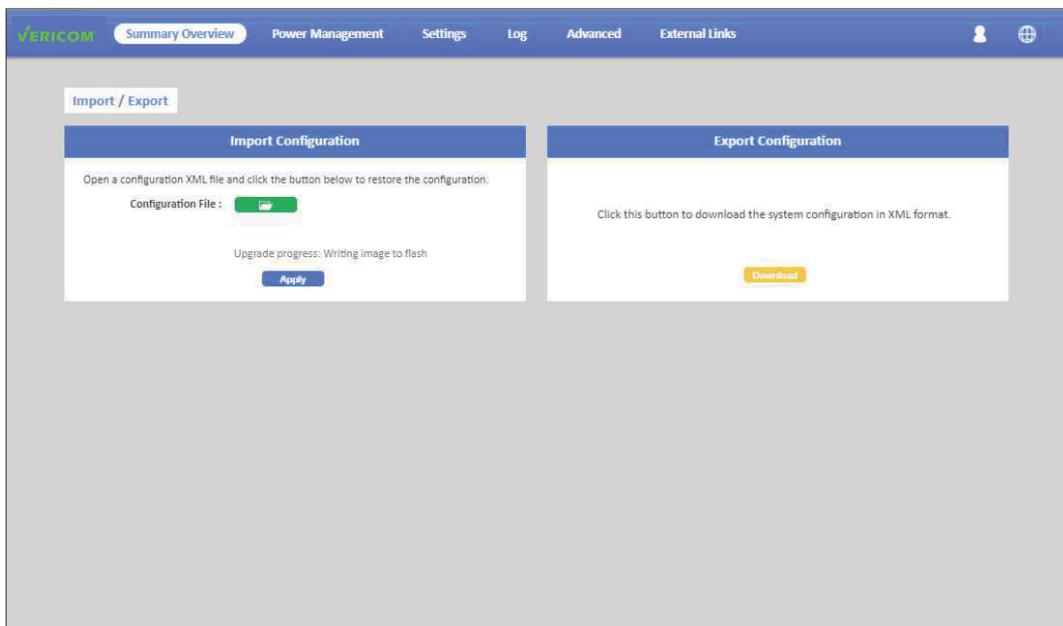
Using the Web Interface

Settings Radius User

This page allows the Power Admin to Add/Delete/Modify Radius users.

You must enable RADIUS and set ready in the Network Service. Then you can add a Radius User and set parameters for this user. The Grouping & Schedule function also supports radius users.

NOTE: If there are 2 users with the same name listed in both Local User & Radius User, Local user will become a priority.

Using the Web Interface

Settings - Local User
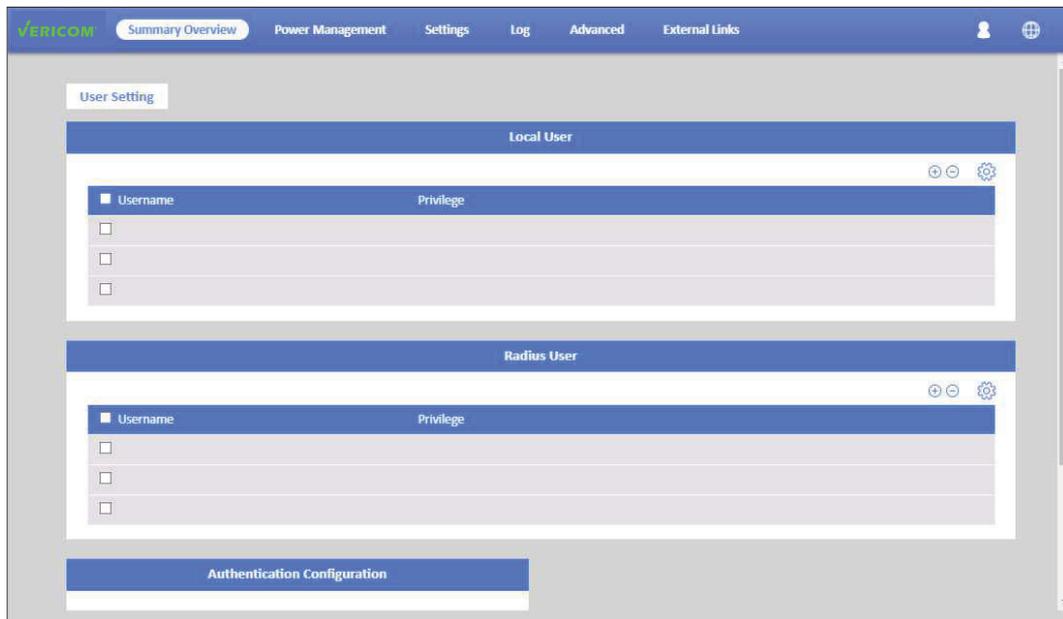
This page shows the user list and admin that can add/delete/modify it. The list can be up to 8 users.

There are 4 kinds of privileges for the user account:

Privilege	Definition
Power Admin	Users can manage all functions.
Admin	Admin users can manage everything but the following: [User Management], [Outlet Grouping], [FW Upgrade & Inlet/Outlet Upgrade], [Reset Default] function.
Supervision	Supervision users only manage [Power Monitoring], [Outlet Grouping], [Inlet/outlet upgrade] function.
User	Read only - cannot manage any function.

Using the Web Interface

Log and Notification-System Log

This page shows the system log.
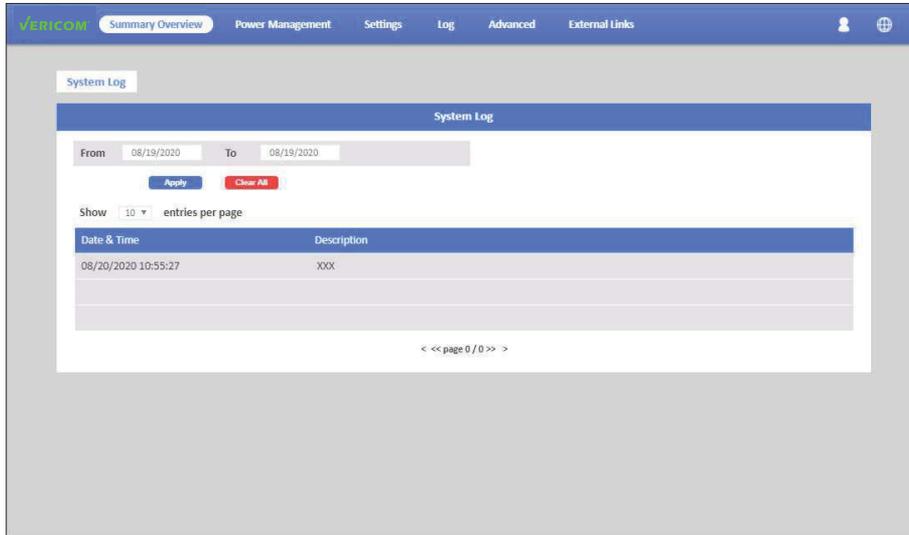
Log and Notification-Even Log

This page shows the warnings and alarms history log.
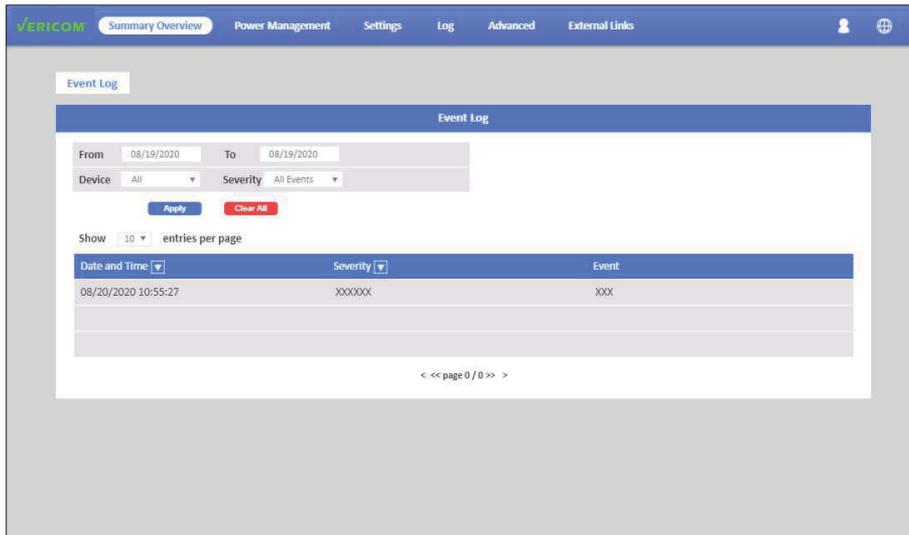
Using the Web Interface

Settings Configure SMTP Server

This page lets users configure SMTP server.

Settings Email Notification Settings

This page lets users set email notification settings. Click "+" to set a new setting. Input "Receiver Address", select "Email Type"/"Event Level" and "Description", then click "Apply" to save settings. You can send a test mail to confirm the setting is correct by clicking "Send Test". Once the new setting is applied, you will get a notification email when the event has been triggered.

Using the Web Interface

Log and Notification-Inlet History Log

This page shows the inlet history log. You can set the log interval in General Setting under the System Management.

Log and Notification-Environment History Log

This page shows the environment history log. You can set the log interval in General Setting under System Management.

Warranty

LIMITED WARRANTY

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of 2 years (from date of initial purchase). If the product should prove defective in material or workmanship within that period, Seller will repair or replace the product, in its sole discretion. Service under this Warranty can only be obtained by your delivering or shipping the product (with all shipping or delivery charges prepaid) to Vericom Global Solutions. Visit www.vericomsolutions.com/t-warranty.aspx for return address. Seller will pay return shipping charges.

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