

Metered Power Distribution Unit

User Guide

RSM1-15AA-08N1

RSM1-20AB-08N1

RSM0-30AM-16N2

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1. Introduction

The Rock Solid Metered Power Distribution Unit (PDU) is an Internet ready device designed and equipped with a true RMS current-meter that will indicate the total power consumption of the PDU. The current load can be accessed locally via a digital display or remotely via secure web access.

Our power monitoring system, PDU Utility, offers an easy to set up and user-friendly computer based utility software for centralized data management of your PDUs. This software provides the capability to remotely monitor multiple PDUs and their power consumption, to realize the total current power consumption and utilization for your enterprise.

1.1. Features of the PDU

- Built-in web server, a user can monitor the current consumption of the power distribution unit in real time
- Built-in true RMS current meter and on board display
- Easy installation and setup
- SSL support with self-signed certificate for secure and encrypted access
- Audible alarm when the power consumption exceeds user defined warning and overload thresholds
- Notification via email and/or SNMP traps if the power load exceeds the warning and overload thresholds
- PDU Utility software for consolidated management
- SNMP support, has a SNMP MIB that can be monitored by a NMS
- Per outlet power protection by the circuit breaker

1.2. Voltage and Current Ratings

- Voltage Input: 100-120V
- Voltage Output: 115V
- Max Current Rating:
 - RSM-15AA-08N1: 15A max current rating.
 - RSM-20AB-08N1: 20A max current rating.
 - RSM-30AM-16N2: 30A max current rating.

2. Package Contents

The standard PDU package contains a Power Distribution Unit with supporting hardware and software. The package contains:

- Power Distribution Unit
- Quick Start Guide
- Power Cable
- 2 Rack-mount Brackets and 8 Screws
- USB Flash Drive, containing:
 - User Manual
 - PDU Utility Software
 - SNMP MIB: Management Information Base (PDUMIB.mib)

3. PDU Functions

The PDU functions for the model RSM1-15AA-08N1 are shown below, the functions for the 20A 1U metered PDU and the 16 output PDUs are also similar.



1. Circuit breaker (for Metered models this is next to the display): For overload power protection, press to reset if it is tripped.
2. Power outlet receptacle: Connect to your equipment.
3. Yellow SSL LED Indicator: Light on means web access is protected by SSL.
4. Green DHCP LED Indicator: Light on means PDU gets IP address via DHCP.
5. Green Power Output Indicators (not on the Metered models)
6. Meter: 3 digit meter to display current and IP address.
7. Function Button
 - Press and release quickly to turn off the Warning beeps, if the Warning threshold is crossed. The Overload beep cannot be cancelled.
 - Press and hold the button, after 2 beeps, the display will show the IP address. The octets of the current IP address will flash once across the display, the display will then resume showing the current.
 - Press and hold the button, after 4 beeps, the PDU will switch the method of IP assignment. If current method is DHCP, then fixed IP will be assumed and vice versa.
 - Press and hold the button, after 6 beeps, the PDU will be reset to factory defaults.
8. Speaker for audible alert:
 - Warning Alert: 1 beep in 1 second when Warning threshold is crossed.
 - Overload Alert: 3 beeps in 1 second when Overload threshold is crossed.The audible alert will keep beeping until the current goes back 0.5 amps below the threshold value. The warning alert can be disabled, see instructions on the Function Button above.
9. Ethernet Port: RJ45 port for connecting to the network

4. Installing the Hardware

This section will provide a quick instruction on installing the PDU.

4.1. Important Safety Instructions

- **Check the voltage rating:** Connect the PDU only to a properly rated power circuit.
- **Check circuit load:** Ensure that connection to the power circuit will not cause overloading of the circuit or supply wiring. Do not use this PDU in conjunction with a power strip or other PDU in an attempt to branch the power circuit. The power rating for equipment connected to the outlet power of the PDU should not exceed individual outlet load rating.
- **Check rack ambient temperature:** If installing in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than ambient temperature in the room. Ensure that the rack ambient temperature does not exceed the maximum rated temperature of the equipment.
- **Check air flow:** Ensure that there is adequate air flow in front and behind the PDU when installing in the rack.
- **Check mechanical load:** Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading.
- **Ensure reliable grounding:** Do not connect to any ungrounded outlet or extension cords/adapters that remove grounding.
- **Ensure proper use:** Do not use this equipment in life support applications, where failure of the equipment may result in failure of the life support systems.
- **Ensure indoor installation:** Do not install in areas of excess moisture, dust or direct sunlight
- **No user serviceable parts:** Do not drill into the PDU housing or open the housing in an attempt to service the PDU. Do not modify the input plug or power cable.
- **Install wisely:** Do not attempt install during a thunderstorm.

4.2. Mounting the PDU

To mount the PDU onto a server rack, perform the following instructions (1U PDUs only):

1. Attach the mounting brackets to the unit, using the 4 retaining screws provided for each bracket
2. Choose a location for the PDU on your rack
3. Align the mounting holes of brackets with the holes on the vertical posts of the rack
4. Secure the PDU on the rack with rack screws
5. Connect input power to the PDU with the provided power cable
6. Connect your equipment to the output power sockets on the PDU
7. Connect the PDU to your network system using an Ethernet cable
8. Switch on the PDU

5. Configuring the PDU

5.1. Logging onto the PDU

The PDU can acquire an IP address using DHCP or failing that will set the static IP 192.168.0.216. If your network has a DHCP server follow the "Using DHCP" instructions below to log in to the PDU, else follow the instructions in the "Using the default IP" section.

5.1.1. Using DHCP

1. Hold the "Function" button down and release after 2 beeps.
2. The PDU meter will display the 4 octets of the current PDU IP address in sequence.
3. Use your browser to connect to the PDU, enter the PDU IP address as the URL.
4. Use the credentials username: snmp and password: 1234 to log in to PDU.

5.1.2. Using the Default IP

1. Connect your computer directly to the PDU with an ethernet cable.
2. Configure your computer to be on the same network as the PDU (example IP 192.168.0.1).
3. With the IP 192.168.0.216 as the URL, use your browser to connect to the PDU.
4. Use the credentials username: snmp and password: 1234 to log in to the PDU.

5.2. Changing User Credentials

Once you are logged in, change the user's login and password. We highly recommend changing the default username and password, leaving it would create a serious security flaw.

To change the credentials:

1. Click on the User link.
2. Enter the old username and password
3. Below that enter the new username and password. Make sure you do not forget the new credentials or you will be locked out and will have to reset the PDU to factory defaults if you do so.
4. Click on Apply.
5. Login again to continue PDU configuration.

5.3. Enabling SSL Access

To enable SSL access:

1. Click on the SSL link on the main menu.
2. Check the "Enable SSL" checkbox
3. Enter the credentials of the PDU user to activate.
4. Click on Apply. You will hear the box beep once and the SSL light go on. You may also get a message "Connection to demo box lost" you can safely click it away and ignore that message.
5. You will have to log back in. Add https:// to the url and log back in.

Since the certificate is self-signed, you will get a warning message from your browser. You can safely continue and have the browser accept that certificate. If you are using Firefox do this by clicking on the Add Exception button, click on Get Certificate, then Submit. Having accepted the self-signed certificate, you should not get any more warnings going forward and communication with the PDU will now be secure.

5.4. Changing Network Parameters

To change network parameters, do the following:

1. From the main menu, click on the Network link
2. Enter a new hostname (optional)
3. If not acquired by DHCP, enter a new IP address
4. Enter a subnet mask
5. Enter a default gateway
6. Disable DHCP and/or add DNS servers (optional)

Once you apply the changes you may have to change the URL in your browser and log back in to continue.

Warning: When configuring the network parameters for your PDU, it is recommended that the power monitoring network system be isolated from your main data network. This ensures access to your power equipment in the event of main data network failure.

5.5. Checking the PDU Load

The total input load in amps is shown at the top of the screen under the Rock Solid logo. Clicking on the PDU link off the main menu also shows the PDU input load and the current threshold values.

5.6. Checking and Changing System Parameters

Clicking on the System link off the main menu displays the system parameters. The model name, firmware version, MAC address, SNMP System Name, SNMP System Contact and SNMP Location are shown. The SNMP values can be changed by doing the following.

1. From the main menu, click on the SNMP link.
2. Enter System Name.
3. Enter System Contact.
4. Enter Location.
5. Click Apply. A confirmation dialog box will pop up, click OK to save the new values.

5.7. Checking and Changing the Threshold Values

The PDU has 2 threshold values, the Warning threshold and the Overload threshold values. If the input current crosses the Warning threshold, then the PDU will beep with the frequency, 1 beep per second. If the input current crosses the Overload threshold, then the PDU will beep with the frequency, 3 beeps per second.

The audible alert will keep beeping until the current goes back 0.5 amps below the threshold value. The Warning alert can be manually disabled, see instructions on the Function Button. The Overload alert cannot be manually disabled.

To change the threshold values, do the following:

1. From the main menu, click on the Threshold link
2. Enter the new Warning and Overload values
3. Click Apply. A confirmation dialog box will pop up, click OK to save the new values.

5.8. Checking and Changing the Mail Settings

When an event (example: crossing of threshold) occurs, the PDU can send out an email message to a pre-defined email account. To configure the mail settings, do the following:

1. From the main menu, click on the Email link.
2. Enter Email Server. The Email Server is the proxy email server that will be used to send the email. The Email Server cannot be an IP address only a hostname that is resolvable by the DNS servers configured earlier is valid.
3. Enter the Sender's Email Address. This is the email address of the sender.
4. Enter the Recipient's Email Address. This is the destination email address.
5. Click Apply. A confirmation dialog box will pop up, click OK to save the new values.

The message in the email will be formatted as follows:

Indicate OutletA~H-XXXXXXXX status in order

X=0 : means the power off.

X=1 : means the power on.

5.9. Checking and Changing the SNMP Trap Parameters

When an event occurs, the PDU can send out trap message to pre-defined IP address. To configure the SNMP settings, do the following:

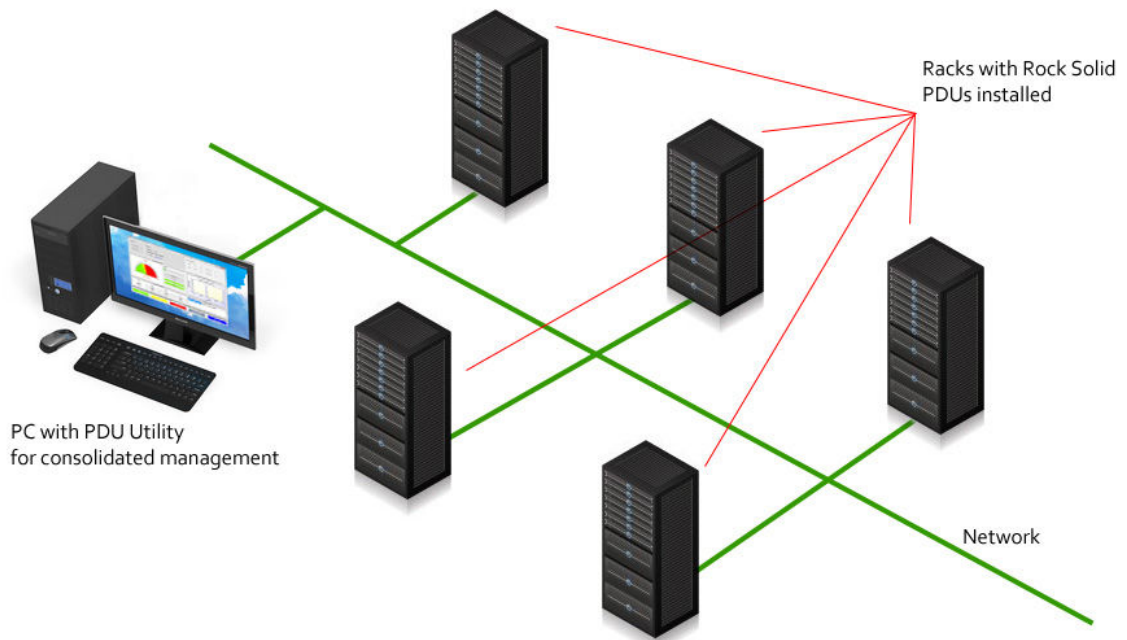
1. From the main menu, click on the SNMP link.
2. Enter Receiver IP. The Receiver IP is the IP of the server that will receive the SNMP trap.
3. Enter Write Community. Default Write Community is "public" and can be modified by user.
4. Click Apply. A confirmation dialog box will pop up, click OK to save the new values.

Read Community is public and fixed.

6. Power Management Consolidation

The data from your Rock Solid PDUs can be consolidated using the PDU Utility software. With the PDU Utility software one can:

- Add PDUs that will have their data consolidated by the PDU Utility
- Create groups and add PDUs to the groups
- Receive traps and email events from the PDUs
- Show consolidated status information for the PDUs
- Query PDUs for status information (threshold crossings etc)
- Show statistics of power usage and event logs



The PDU Utility software is in the USB flash drive that came with your PDU. There is a PDU Utility Manual in the flash drive as well, in the Manuals directory that will instruct on how to install and configure the software.

7. Warranty

Rock Solid PDUs warrants that all our products will be free of defects in material and workmanship. The manufacturer warranty period is 2 years. Should any manufacturer defect occur within the warranty period, Rock Solid PDUs will correct the defect free of charge with the exception of the cost to ship the product to the factory or authorized dealer that sold the device. Proof of purchase in the form of an invoice or prior registration is required to activate this warranty. Should any manufacturer defect occur after the warranty period, Rock Solid PDUs will correct the defect and apply a fee for the labor and parts to repair the defect.

7.1. What this warranty does not cover?

1. Shipping damage (after unit is accepted from courier).
2. Damage to the device due to opening, rough handling or misuse of the device.
3. Any failure, loss, damage or personal injury due to accident, neglect, abuse by the consumer or improper operation.
4. Any unit purchased from an unauthorized dealer.
5. If the original factory serial number has been removed, defaced, replaced or tampered with in any way.
6. Transportation charges to the factory or authorized dealer incurred in connection with warranty service.
7. Indirect, consequential, or special damages, except as required by Federal or State laws.

If the device has a manufacturer's defect, please contact sales@remotepowergear.com to get an RMA document to fill out and return with the device. Any devices returned without an RMA document will be rejected.

WARNING: Opening the device cover during the warranty period voids the warranty.

