MINUTEMAN®
POWER TECHNOLOGIES
by Para Systems, Inc.

RPM1581HVN
RPM20161VN
RPM2082HVI
RPM20162VI
(Remote Power Manager)

User's Manual

Table of Contents

1. IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions that should be followed during the installation and the operation of the Remote Power Manager (RPM).

SAVE THESE INSTRUCTIONS

An Important Notice

- To ensure safety in all applications ensure that a Qualified Service Personnel installs the system.
- Make sure that the AC Utility outlet is properly grounded.
- Do not open the unit there are no serviceable parts inside. This will void the warranty.
- Do not try to repair the unit yourself, see Obtaining Service.
- Please make sure that the input voltage of the RPM matches the supply voltage.
- Use a certified input power cord with the correct plugs and sockets for the appropriate voltage system.
- Make sure the RPM is installed in the proper environment as specified. (0-50°C and 0-90% non-condensing humidity)
- This RPM series is **ONLY** intended to be installed in an indoor temperature controlled environment that is free of conductive contaminants.
- Do not operate the RPM in: extremely dusty and/or unclean areas, locations near heating devices, water or excessive humidity, or where the RPM is exposed to direct sunlight.
- Select a location, which will provide good air circulation for the RPM at all times.
- This RPM supports electronic equipment in offices, telecommunications, process control, security, and IT applications.
- Servicing of RPM should be performed by Qualified Service Personnel Only.
- **CAUTION** – To reduce the risk of fire, connect only to a branch circuit with over current protection in accordance with the National Electric Code.
- **CAUTION** - Connect the RPM to a two pole, three wire grounding AC wall outlet. The receptacle must be connected to the appropriate branch protection (circuit breaker or fuse). Connection to any other type of receptacle may result in a shock hazard and violate local electrical codes. Do not use extension cords, adapter plugs, or surge strips.
- Route power cords so they cannot be walked on or damaged.
- **CAUTION** - To reduce the risk of electrical shock with the installation of this RPM equipment and the connected equipment, the user must ensure that the combined sum of the AC leakage current does not exceed 3.5mA.
- **CAUTION** - To de-energize the outputs of the RPM: Disconnect the RPM from the AC wall outlet.
- **CAUTION** - Do not install this device if there is not at least 30 feet (10 meters) or more of wire between the electrical outlet and the electrical service panel.

Receiving Inspection

After removing your RPM from its carton, it should be inspected for damage that may have occurred in shipping. Immediately notify the carrier and place of purchase if any damage is found. Warranty claims for damage caused by the carrier will not be honored.   The packing materials that your RPM was shipped in are carefully designed to minimize any shipping damage. In the unlikely case that the RPM needs to be returned to MINUTEMAN, please use the original packing material. Since MINUTEMAN is not responsible for shipping damage incurred when the system is returned, the original packing material is inexpensive insurance. PLEASE SAVE THE PACKING MATERIALS!

Para Systems Life Support Policy

As a general policy, Para Systems Inc. (Para Systems) does not recommend the use of any of its products in life support applications where failure or malfunction of the Para Systems product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. Para Systems does not recommend the use of any of its products in direct patient care. Para Systems will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Para Systems that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of Para Systems Inc. is adequately protected under the circumstances.

Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), auto transfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators for both adults and infants, anesthesia ventilators, and infusion pumps as well as any other devices designated as "critical" by the United States FDA.

2. Introduction

The RPM is an Internet ready device designed and equipped with an intelligent current-meter (True RMS) that will indicate the total power consumption of the RPM.

Features:

- Built-in web server.
- Build-in true RMS current meter.
- Easy setup.
- 7-segment LCD provides useful information.
- Supports SNMP traps, which can be monitored by an NMS.
- Sends emails and traps when an event occurs.
- Provides an audible warning when the load exceeds the rating of the RPM.
- Outlet protection via circuit breaker.
- Individual control of the power outlets.
- Group control of the power outlets.
- LEDs visually indicate the status of the outlets.
- Supports power on sequence.

3. RPM Package

The standard RPM package contains a Remote Power Manager unit with supporting hardware. The contents of the package are:

- Remote Power Manager Unit.
- Rackmount Brackets.
- CD-ROM, which contains:
- User Manual.
- MIB files.
- Adobe Acrobat Reader.

4. Function

Interface

7-segment LCD

Functions	Description
Ethernet	RJ45 port for the network communication.
Audible Alarm	Warning- 1 beep in 1 second. Overload- 3 beeps in 1 second. **Note:** The audible alarm will keep beeping until the current is lower than the threshold by 0.5 amps.
Function Button	• Press and release the function button to turn off the audible alarm. **Note:** The overload alarm cannot be silenced. • Press and hold the function button for 2 beeps, then release will display the IP address • Press and hold the function button for 4 beeps, then release will change the way to set the IP address by either DHCP or fixed IP. • Press and hold the function button for 6 beeps, then release resets the RPM back to the default setting.
Meter	3 digits will display the current and/or the IP Address.
ID	The identification of the RPM.
LED Indicator	DHCP (green) LED: On means the RPM gets its IP address by DHCP. Status (green) LED: Indicates each outlet's power status.
Circuit Breaker	Overload protection.

5. Installation

This RPM series is **ONLY** intended to be installed in an indoor temperature controlled environment that is free of conductive contaminants. DO NOT operate the RPM in: extremely dusty and/or unclean areas, locations near heating devices, water or excessive humidity, or where the RPM is exposed to direct sunlight. Select a location, which will provide good air circulation for the RPM at all times.   Route power cords so they cannot be walked on or damaged.

Rack Mount Instructions

A) Elevated Operating Ambient Temperature - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring.

E) Reliable Earthing - Reliable Earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Hardware

The RPM comes with brackets for mounting into a rack. To mount the RPM into a rack perform the following procedure:

1. Attach the mounting brackets to the RPM, using the four retaining screws provided for each of the brackets.

2. Select the desired location for the RPM.

3. Align the mounting holes of brackets with the notched hole on the vertical rail and attach with the retaining screws.

4. Connect the Ethernet cable to the RPM.

5. Connect the output devices to the RPM outlets.

6. Connect the input power cord of the RPM to the wall outlet.

Note 1:
The default setting for the IP address is DHCP enabled. If the RPM cannot get the IP from DHCP server, the IP address will stay at the **default IP address 192.168.0.216**

Note 2:
To setup the network system for RPM, it is strongly recommended to build up the power monitoring network system, which is isolated from the others, in order to maintain reliable system operation.

6. Web Interface

Login:

Enter the IP address of RPM in a web browser.

Note:
The default setting for the IP address is DHCP enabled. If the RPM cannot get the IP from the DHCP server, the IP address will remain at the **default IP address 192.168.0.216**

The default **User name** is **snmp**.

The default **Password** is **1234**.

Information: RPM

This screen displays the total current draw of the RPM.

Total load: 0.0 A , Status: Normal		
Information	**RPM**	
RPM	PDU	0.0 A Normal
System		
Control	**Threshold**	
Outlet	Warning	12.0 A
Group	Overload	15.0 A
Schedule		
Ping Action		
Configuration		
RPM		
Threshold		
User		
Network		
Mail		
SNMP		
Time		

Information: System

Indicates the RPM's system information, including:

Model No.

Firmware Version

MAC Address

System Name

System Contact

Location

Control: Outlet

Indicates the RPM's outlet on/off status and control.

Select the outlet by checking the box and then click the ON or the OFF button to control the outlet.

ON: Press the ON button to turn on the assigned outlets.

OFF: Press the OFF button to turn off the assigned outlets.

OFF/ON: Press the OFF/ON button to reboot the assigned outlets.

Control: Group

This allows you to group multiple outlets for group control.

Setting: Allows you to enter into the setting mode.

Outlet: Allows you to assign the outlet to a group.

 Note:
 The identified outlets need to be listed in the alphabetical order.

ON: Press the ON button to turn on the assigned group.

OFF: Press the OFF button to turn off the assigned group.

Active: Enables the controllable group.

Control: Schedule

This allows you to Schedule turning OFF/ON the RPM's outlets.

> **Outlet:** Assign the outlet to be controlled in this schedule.

> **Every:** Set the schedule for an outlet using: a single day, an assigned weekly day, or every day.

> **Date:** When selecting the single day option "sgl" under the "Every" column, a specific date must be entered.

Begin:	End:	Action:
Turn on outlet at this time	None	ON
Turn off outlet at this time	None	OFF
Turn off outlet at this time	Turn on outlet at this time	OFF/ON
Turn on outlet at this time	Turn off outlet at this time	ON/OFF

> **Active:** Enables the assigned schedule control.

Control: Ping Action

This allows you to Ping the device that is connected to a specific outlet and if there is no response the outlet can be rebooted.

Automatically cycle's power to a locked device connected to the RPM by rebooting the outlet.

Ping IP Address: Set the IP address of the device to be monitored by the RPM.

Response 10 minutes: The RPM will ping the assigned IP address once each minute. If the device does not respond, then the RPM will repeat the ping once every minute, if the device does not respond after 10 attempts (10 minutes), the RPM will carry out the assigned action automatically.

Action: Select the outlet action "OFF" or "OFF/ON"

Active: Enables this function.

		MINUTE☰MAN POWER TECHNOLOGIES by Para Systems, Inc.		
		Total load: 0.0 A , Status: Normal		
Information	Ping IP Address	Response 10 minutes	Outlet	Action	Active
RPM					
System	19.168.23.200	0	OutletA	OFF ▾	☐
Control	19.168.23.201	0	OutletB	OFF ▾	☐
Outlet					
Group	19.168.23.202	0	OutletC	OFF ▾	☐
Schedule	19.168.23.203	0	OutletD	OFF ▾	☐
Ping Action					
Configuration	19.168.23.204	0	OutletE	OFF ▾	☐
RPM	19.168.23.205	0	OutletF	OFF ▾	☐
Threshold					
User	19.168.23.206	0	OutletG	OFF ▾	☐
Network	19.168.23.207	0	OutletH	OFF ▾	☐
Mail					
SNMP					
Time					

13

Configuration: RPM

Configure the outlet name and the delay time.

Name: Rename the outlet.

ON: Set the delay time for the power on sequence.

OFF: Set the delay time for the power off sequence.

Note:
The maximum delay time is 255 seconds.

Note：
After the RPM is plugged into the main power, the RPM will automatically start to sequentially turn on the outlets according to the preset delay time. The default setting for delay time is one second for each outlet; therefore the 8 outlet RPM will take 8-seconds, the 24 outlet RPM will take 24-seconds to complete the start-up sequence.

If the RPM is unplugged from the main power before the start-up sequence is completed, the outlets, which are not turned on will remain off. The next time the RPM is plugged into the main power, these outlets will not be automatically turned on. These outlets can only be turned on via the web interface.

Configuration: Threshold

Set the warning and overload thresholds for entire RPM.

Configuration: User

Change the ID (User name) and the password.

The default ID (User name) is **snmp** and the password is **1234**.

Configuration: Network

Enter the network information or enable the DHCP function.

The default setting for DHCP is enabled.

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Total load: 0.0 A , Status: Normal

Information
  RPM
  System
Control
  Outlet
  Group
  Schedule
  Ping Action
Configuration
  RPM
  Threshold
  User
  Network
  Mail
  SNMP
  Time

IP Address

Host Name	RPM
IP Address	192.168.0.103
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
	☑ Enable DHCP

DNS Server IP

Primary DNS IP	211.78.130.2
Secondary DNS IP	168.95.1.1

Apply

Configuration: Mail

When an event occurs, the RPM can send out email messages to predefined accounts.

Email Server: Input the email server's domain name (does not support IP addresses).

Sender's Email: Input the sender's email address.

Email Address: Input the recipient's email address.

The email message format is as follows:
Indicates the Outlets A~H-XXXXXXXX status in order
X=0: means the outlet is off.
X=1: means the outlet is on.

Note: Make sure the DNS server can resolve the email server's domain name.

Configuration: SNMP
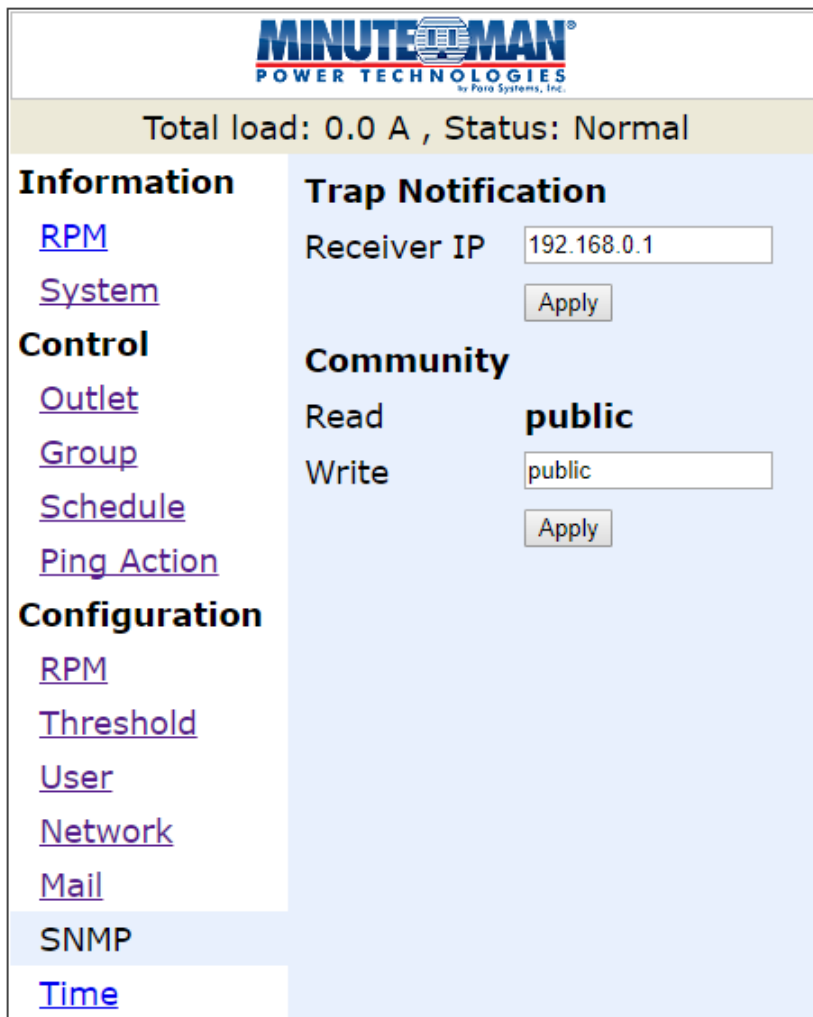
When an event occurs, the RPM can send out SNMP Traps to predefined targets.

Trap Notification: Set the IP address for the Trap receiver.

Community: Set the SNMP community.

The Read Community is public and fixed.

The Default Write Community is "public" and can be changed.

Configuration: Time

This will allow you to setup the system time for the schedule control.

Internet Time Setting: Get the time from an assigned network timeserver.

System Time: Input the time manually.

7. Specifications

Model Number	RPM1581HVN	RPM20161VN	RPM2082HVI	RPM20162VI
Load Capacity (Max)	12Amps	16Amps	16Amps	16Amps
INPUT PARAMETERS				
Number of Phases	Single (1∅2W +G)			
Nominal Voltage	100-120VAC		200-240VAC	
Frequency	50/60Hz			
Input Protection	Re-settable circuit breaker			
OUTPUT PARAMETERS				
Nominal Voltage	100-120VAC		200-240VAC	
Frequency	50/60Hz			
Branch Circuit Protection	UL 60950-1			
Circuit Quantity	One			
ENVIRONMENTAL				
Operating Temperature	+32° - +122°F (0° - 50°C)			
Storage Temperature	+32° - +149°F (0° - 65°C)			
Operating/Storage Humidity	0 - 90%, non-condensing			
Operating Elevation	0 to 3,000m (0 to +10,000 ft)			
Storage Elevation	0 to 15,000m (0 to +50,000 ft)			
PHYSICAL				
Input Power Cord	10-feet			
Input Plug	NEMA 5-15P	NEMA 5-20P	NEMA 6-20P	NEMA 6-20P
Quantity Output Receptacles	8	16	8	16
Type Output Receptacles	NEMA 5-15/20R	NEMA 5-15/20R	IEC 320 C13	IEC 320 2 – C19, 14 – C13
Rack Mounting Format	Horizontal (1U) Vertical (Zero U)	Vertical (Zero U)	Horizontal (1U) Vertical (Zero U)	Vertical (Zero U)
Net Dimension L x W x H (mm)	3.54 x 17 x 1.73" (90 x 432 x 44)	2.2 x 49.02 x 1.73" (56 x 1245 x 44)	3.54" x 17" x 1.73" (90 x 432 x 44)	2.2 x 49.02 x 1.73" (56 x 1245 x 44)
Net Weight Lbs (Kgs)	4.85 (2.2)	8.82 (4.0)	4.63 (2.1)	8.15 (3.7)
Ship Dimensions L x W x H (mm)	19.9 x 8.3 x 3.5" (505 x 210 x 90)	53.5 x 8.7 x 4.3" (1360 x 220 x 110)	19.9 x 8.3 x 3.5" (505 x 210 x 90)	53.5 x 8.7 x 4.3" (1360 x 220 x 110)
Ship Weight Lbs (Kgs)	5.51 (2.5)	11.02 (5.0)	5.29 (2.4)	10.36 (4.7)
REGULATORY COMPLIANCE				
Safety/Approvals	cUL, UL 60950-1, CE			

8. Obtaining Technical Assistance

For Technical Support on the Web, please visit the Support section of our Web site or visit our online Discussion Forum.

1. Use the Troubleshooting section to eliminate obvious causes.
2. Verify there are no tripped circuit breakers and that the batteries are good. A tripped circuit breaker and defective batteries are the most common issues.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the issue call or fax the Technical Support department at the following numbers; Voice phone (972) 446-7363, FAX line (972) 446-9011 or visit our Web site at www.minutemanups.com the "Discussion Board". Before calling the Technical Support Department have the following information available:
   a) Contact name and address.
   b) Where and when the unit was purchased.
   c) All of the model information about your unit.
   d) The serial number of your unit.
   e) Any information on the failure, including LEDs that may be illuminated or error codes displayed.
   f) A description of the protected equipment including model numbers, if possible.
   g) A technician will ask you for the above information and if possible, help solve the issue over the phone. In the event that the unit requires factory service, the Technical Support Representative will issue you a Return Material Authorization Number (RMA #). **NOTE: We must have the model number and the serial number of the product to issue an RMA #.**
   h) If the unit is under warranty, the repairs will be done at no charge. If the unit is not under warranty there will be a charge for the repair.
4. Pack the unit in its original packaging. If the original packaging is no longer available, ask the Technical Support Representative about obtaining a new set. It is important to pack the unit properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material.
   a) Include a letter with your name, address, day time phone number, RMA number, a copy of your original sales receipt, and a brief description of the problem.
5. Mark the RMA # on the outside of all packages. The factory cannot accept any package without the RMA # marked on the outside of the package.
6. Return the unit by insured, prepaid carrier to:

Para Systems Inc.
MINUTEMAN UPS
1809 W. Frankford Road, Suite 150
Carrollton, TX 75007
ATTN: RMA # _____Please have the information listed above ready when you contact us.

Contact Technical Support By:
Phone: 1-800-238-7272 / 1-972-446-7363
Fax: 1-972-446-9011
Web: www.minutemanups.com/support/index.php (Technical Support)
                  www.minutemanups.com (Home Page)

9. Limited Product Warranty

Para Systems, Inc. (Para Systems) warrants this equipment, when properly applied and operated within specified conditions, against faulty materials or workmanship for a period of three (3) years from the date of purchase. For equipment sites within the United States and Canada, this warranty covers depot repair or replacement of defective equipment at the discretion of Para Systems. Depot repair will be from the nearest authorized service center. The customer pays for shipping the product to Para Systems. Para Systems pays ground freight to ship the product back to the customer. Replacement parts and warranty labor will be borne by Para Systems. For equipment located outside of the United States and Canada, Para Systems only covers faulty parts. Para Systems products that are depot repaired or replaced pursuant to this warranty shall only be warranted for the unexpired portion of the warranty applying to the original product. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

The warranty shall be void if (a) the equipment is damaged by the customer, is improperly used, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications; (b) the equipment is repaired or modified by anyone other than Para Systems or Para Systems approved personnel; or (c) has been used in a manner contrary to the product's User's Manual or other written instructions.

Any technical advice furnished before or after delivery in regard to use or application of Para Systems' equipment is furnished without charge and on the basis that it represents Para Systems' best judgment under the circumstances, but it is used at the recipient's sole risk.

EXCEPT AS PROVIDED HEREIN, PARA SYSTEMS MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation of implied warranties; therefore, the aforesaid limitation(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL PARA SYSTEMS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, Para Systems is not liable for any costs, such as; labor for on-site installation, on-site maintenance or on-site service, lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, cost of substitutes, claims by third parties, or otherwise. The sole and exclusive remedy for breach of any warranty, expressed or implied, concerning Para Systems' products and the only obligation of Para Systems hereunder, shall be depot repair or replacement of defective equipment, components, or parts; or, at Para Systems' option, refund of the purchase price or substitution with an equivalent replacement product. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

No employee, salesman, or agent of Para Systems is authorized to add to or vary the terms of this warranty.