

INSTALLATION

1 Inspection

The following items are inside the box:

- UPS unit
- User Manual

Remove the UPS from its package and inspect it for damage that may have occurred during shipping. If any damage is discovered, re-pack the unit and return it to the place of purchase.

2 Connect to Utility Power

Connect the AC power cord to utility power. The UPS will automatically charge battery. For best result, charge the battery for 24-hours prior to initial use.



3 Plug in Equipment

Plug your mission critical equipment into the Battery Backup Outlets on the rear panel of the UPS.

NOTE: Make sure that the UPS is powered on all the time to protect your mission critical equipment during power failures.

CAUTION: NEVER connect a laser printer or scanner to the battery backup outlets of the UPS. The equipment may draw significant power and overload the UPS.



OPERATION & FUNCTIONS

1 Turn On the UPS

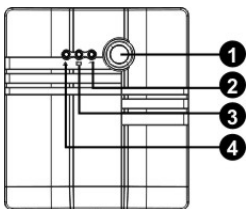
Press the power switch lightly. Then, the LED will light up and the UPS will turn on.

2 Turn Off the UPS

Press the power switch lightly again. Then, the LED will go off and the UPS will turn off.

3 Cold Start Function

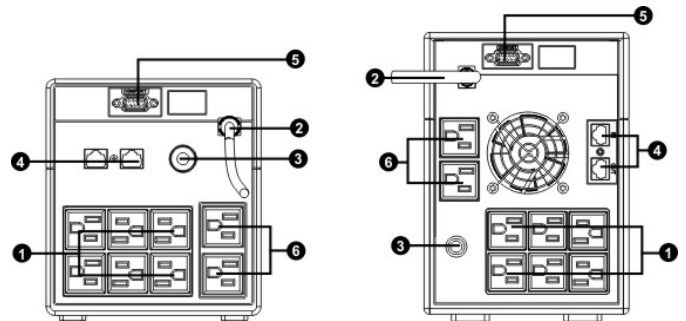
When the UPS is off and there is no utility power, it's still possible to cold start the UPS to power the loads. Press the power switch lightly. Then, the LED will flash and the UPS will turn on.



- 1 Power Switch
- 2 AC Mode: Green LED on
- 3 Battery Mode: Yellow LED flashing
- 4 Fault LED: Red LED on

Indicator	Meaning
Green LED on	Utility power is normal. The UPS is in the normal AC mode.
Yellow LED flashing	Utility power has failed. The UPS is in the Battery mode.
Red LED on	The UPS has detected a fault condition.

REAR PANEL



1: Battery backup outlets:

Plug mission critical equipment into battery backup outlets.

2: AC input:

Connect to Utility Power

3: Input Circuit Breaker:

The circuit breaker will trip if an overload condition occurs.

4: Phone/Fax/Network Protection:

Protects a single line phone, fax and network from surges.

5: RS232 Communications port (Optional only).

6: Surge-only outlets:

Plug Non-critical equipment into the surge-only outlets.

ALARMS

Battery mode:

When the UPS is in Battery mode, the Yellow LED will flash and the UPS sounds an audible alarm every 10 seconds.

Low battery:

When the UPS is in Battery mode and the battery reaches a low level, the UPS will beep every second.

Overload:

When the UPS is overloaded, the UPS will beep every 0.5-seconds to warn of an overload condition.

Fault:

When a UPS fault occurs, the Red LED will turn on and the UPS will continuously beep.

SAFETY CAUTION

SAVE THESE INSTRUCTION

This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries.

- This UPS utilizes voltage that may be hazardous. Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Only authorized service personnel may perform repairs.
- This pluggable type equipment with battery already installed is user installable.
- The utility power outlet that supplies the UPS shall be installed near the UPS and shall be easily accessible.
- During the installation of this equipment the user should ensure that the combined sum of the AC leakage current does not exceed 3.5mA.
- Connection to any other type of AC wall outlet other than a two-pole, three-wire grounded outlet may result in shock hazard as well as violate local electrical codes.
- In the event of an emergency, press the "OFF" button and disconnect the power cord from the AC wall outlet to properly disable the UPS.
- Do not allow any liquids or foreign objects to enter the UPS.
- This UPS is intended for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants). Avoid installing the UPS in locations where there is standing or running water, or excessive humidity.
- Do not plug the UPS input into its own output.
- Do not attach a power strip or surge suppressor to the UPS.
- Do not attach non-computer-related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to UPS.
- Do not dispose of batteries in a fire as they may explode.
- A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:
 - 1) Remove watches, rings, or other metal objects.
 - 2) Use tools with insulated handles.
 - 3) Wear rubber gloves and boots.
 - 4) Do not lay tools or metal parts on top of the batteries.
 - 5) Disconnect charging source prior to connecting or disconnecting from the battery terminals.
- Internal battery voltage is 24VDC. These UPSs contain Sealed non-spillable maintenance-free lead acid batteries.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- When replacing batteries, replace with the same number and type of sealed lead-acid battery.
- Do not open or mutilate the battery. Release electrolyte is harmful to the skin and eyes. It may be toxic.
- Attention, Risk of Electrical Shock. Hazardous live parts inside these power supplies are energized from the battery even when the AC input is disconnected.
- To reduce the risk of overheating the UPS, do not cover the UPS' cooling vents and avoid exposing the unit to direct sunlight or installing the unit near heating devices. Select a location, which will provide good air circulation for the UPS at all times. Route power cords so they cannot be walked on or damaged.

All connected equipment should be turned off, then disconnect from the UPS to avoid battery drain. Unplug the UPS from the wall outlet. Then turn off the UPS for storage. Store the UPS unit covered and upright in environments where the ambient temperature is -20° C to 50° C with its battery fully charged.

SPECIFICATIONS

MODEL	MM1000AVR	MM1500AVR	MM2000AVR
Capacity	1000VA	1500VA	2000VA
Topology	Line-Interactive, Simulated Sine Wave		
Input Voltage	110/120 VAC		
Input Voltage Range	85-145 VAC		
Surge Rating	158 J		
Output Voltage Reg.	± 10 % (Battery mode)		
Transfer Time	Typical 6mS (10mS max)		
Waveform	Simulated Sine Wave		
Battery System	24VDC		
Battery	2 - 12V7Ah	2 - 12V9Ah	
Charging Time	8 hours recover to 90% capacity		
Net Dimension D x W x H	13.78x5.75x6.30" 350x146x160mm	15.63x5.75x8.07" 397x146x205mm	
Net Weight	17.6lbs (8.0kg)	24.5lbs (11.1kg)	25.4lbs (11.5kg)
Humidity	0-90% RH @ 0-40°C (non-condensing)		
Temperature	+32 to +104° F (0 to 40° C)		
Noise Level	Less than 40dB		

*Specifications are subject to change without notice.

TROUBLESHOOTING

Problem	Possible Cause	Solutions
Green LED not on.	The UPS is not on.	Press the power switch again to turn on the UPS.
	Battery voltage is too low.	Charge the battery at least 6 hours.
	Battery fault.	Replace the battery.
The UPS always on battery mode.	Power cord loose.	Reconnect the power cord.
The UPS continuously beeps.	Overload.	Remove some of the load.
Backup time too short.	Battery voltage is too low.	Charge the battery at least 6 hours.
	Overload.	Remove some of the load.
	Battery defect.	Replace the battery.

If any abnormal situations occur that are not listed above, please call for service immediately.

PLACEMENT & STORAGE

Install the UPS in a protected area that is free of excessive dust and has adequate airflow. Place the UPS away from other units at least 20 cm to avoid interference. For best performance, keep the indoor temperature between 0° C and 40° C.

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 one year from the date of purchase. For equipment sites within the United States and Canada, this warranty covers repair or replacement of defective equipment at the discretion of Para Systems. Repair will be from the nearest authorized service center. The customer pays for shipping the unit to Para Systems. Para Systems pays ground freight to ship the unit 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 repaired or replaced pursuant to this warranty shall 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's equipment is furnished without charge and on the basis that it represents Para Systems's 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 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's products and the only obligation of Para Systems hereunder, shall be the repair or replacement of defective equipment, components, or parts; or, at Para Systems's 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.

OBTAINING SERVICE

If the UPS requires Service:

1. Use the **TROUBLESHOOTING** section to eliminate obvious causes.
2. Verify there are no circuit breakers tripped. A tripped circuit breaker is the most common problem.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the problem call or fax Minuteman Technical Support at the following numbers; Voice phone (972) 446-7363, Fax line (972) 446-9011 or Contact Minuteman UPS at mmsupport@minutemanups.com. Please have the following information available BEFORE calling the Technical Support Department:

- A. Where and when the unit was purchased.
- B. All of the model information about your UPS.
- C. Any information on the failure, including LEDs that may not be illuminated.
- D. A description of the protected equipment, including model numbers if possible.
- E. A technician will ask you for the above information and, if possible, help solve your problem over the phone or via email.

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