

MINUTEMAN[®]
UNINTERRUPTIBLE POWER SUPPLIES

CPE Tower Battery Pack

User's Manual

Para Systems, Inc.
1455 LeMay Dr.
Carrollton, TX 75007
Phone: 1-972-446-7363
Fax: 1-972-446-9011
Internet: minutemanups.com
UPS Sizing: sizemyups.com

PN - 34000279



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IMPORTANT SAFETY INSTRUCTIONS

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

SAVE THESE INSTRUCTIONS

An Important Notice

- To ensure safety in all applications ensure that a Qualified Service Personnel installs the system.
- 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.
- To eliminate any overheating of the Battery Pack, keep all ventilation openings free from obstruction, and do not store anything on top of the Battery Pack. Keep the Battery Pack 8-inches away from the wall.
- Make sure the Battery Pack is installed in the proper environment as specified. (0-40 °C and 30-90% non-condensing humidity)
- Do not install the Battery Pack in direct sunlight.
- Install the Battery Pack indoors as it is not designed for outdoor use.
- Dusty, corrosive and salty environments will damage the Battery Pack.
- Install the Battery Pack away from; objects which give off excessive heat and areas, which are excessively wet.
- The battery will discharge naturally if the system is unused for prolonged periods of time.
- It is recommended that the batteries be recharged every 2-3 months while the Battery Pack is not in service.
- This Battery Pack is intended for use in a Controlled Environment.
- Servicing of Batteries should be performed by Qualified Service Personnel Only.
- When Replacing Batteries, Replace With the Same Number and Type.
- **CAUTION** – Do Not dispose of the battery in a fire. The battery may explode.
- **CAUTION** – Do not open or mutilate the battery. Released electrolyte is harmful to the skin and eyes. It may be toxic.
- **CAUTION** – Risk of Electric Shock – The battery circuit is not isolated from AC, hazardous Voltage may exist between battery terminals and ground. Test before touching.

- **CAUTION** – A Battery can present a Risk of Electrical Shock and High Short-Circuit Current. The following precaution should be observed when working with the batteries:
 - A. Remove watches, rings, or other metal objects.
 - B. Use tools with insulated handles.
 - C. Wear rubber gloves and boots.
 - D. Wear protective eye gear (goggles).
 - E. Do not lay tools or metal parts on top of batteries.
 - F. Disconnect charging source prior to connecting or disconnecting battery terminals.

Receiving Inspection

After removing your MINUTEMAN Battery Pack 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 Battery Pack was shipped in are carefully designed to minimize any shipping damage. In the unlikely case that the Battery Pack 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

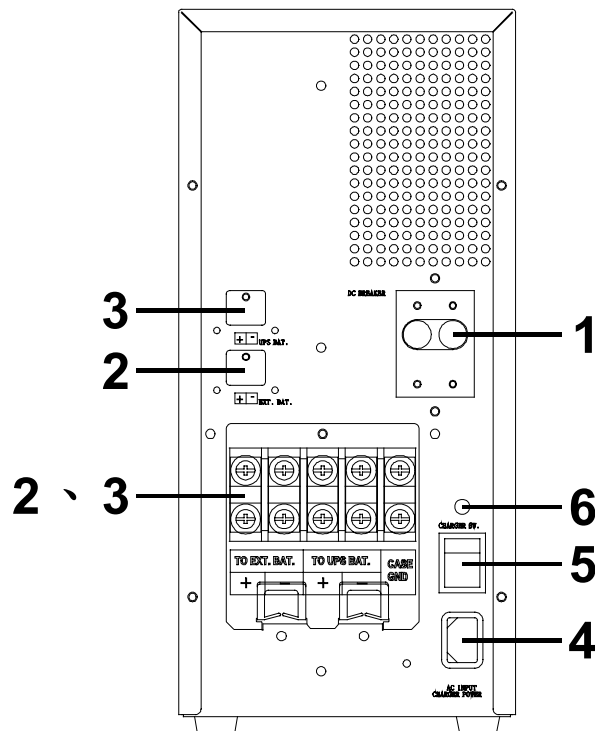
As a general policy, Para Systems Inc. (Para Systems) does not recommend the use of any of its products in life support applications where failure or malfunction of the Para Systems product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or 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.

Chapter One: Introduction

Thank you for purchasing a MINUTEMAN power protection product. It has been designed and manufactured to provide many years of trouble free service.

Please read this manual before installing your CPE Battery Pack Series, models CPEBP1000, CPEBP2000, CPEBP3000, as it provides important information that should be followed during installation and maintenance of the Battery Pack and batteries allowing you to correctly set up your system for the maximum safety and performance. Included is information on customer support and factory service if it is required. If you experience a problem with the Battery Pack please refer to the Obtaining Service section in this manual to collect enough information so that the MINUTEMAN Technical Support Department can rapidly assist you.

Chapter Two: Introduction to the Rear Panel



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1. DC Breaker	1. Battery Over-current Protection 2. DC bus voltage disconnect device
2. EXT. BAT. +/-	External battery connector for the 2 nd (or next) Battery Pack connected
3. UPS BAT. +/-	External battery connector for the UPS
4. Charger Inlet	The inlet for the internal charger the Battery Pack (Optional)
5. Charger Switch	On/Off switch to control the internal charger (Optional)
6. Utility Indicator	To show that the internal charger is connected to Utility and is charging the batteries (Optional)

Chapter Three: Installation

The packing condition and the external outlook of the unit should be inspected carefully before installation. Retain the packing material for future use.

3.1. Unpacking

1. Take the Battery Pack out of the box.
2. Remove the packing material.

NOTE: These Battery Packs are extremely heavy. Use the appropriate number of personnel when unpacking and lifting the unit.

Standard Package includes:

- a. Battery Pack
- b. User's Manual
- c. External Battery Cable (Anderson connector to Anderson connector)
- d. External battery cable strain relief



External Battery Cable (1-piece)



External battery cable strain relief (2-pieces)

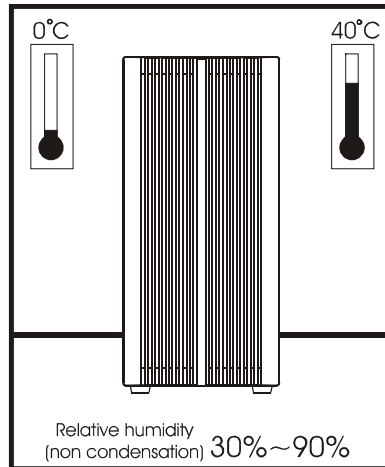
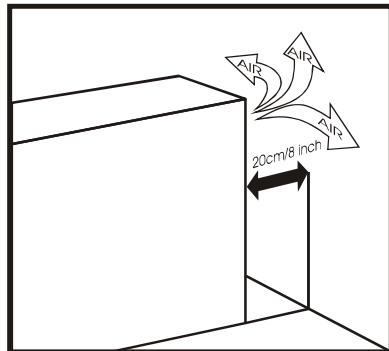
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3.2. Selecting Installation Position

The CPE Battery Pack Series is intended to be installed in a temperature controlled environment that is free of conductive contaminants. Select a location, which will provide good air circulation for the Battery Pack. Avoid locations near heating devices, water or excessive humidity, or where the Battery Pack is exposed to direct sunlight.

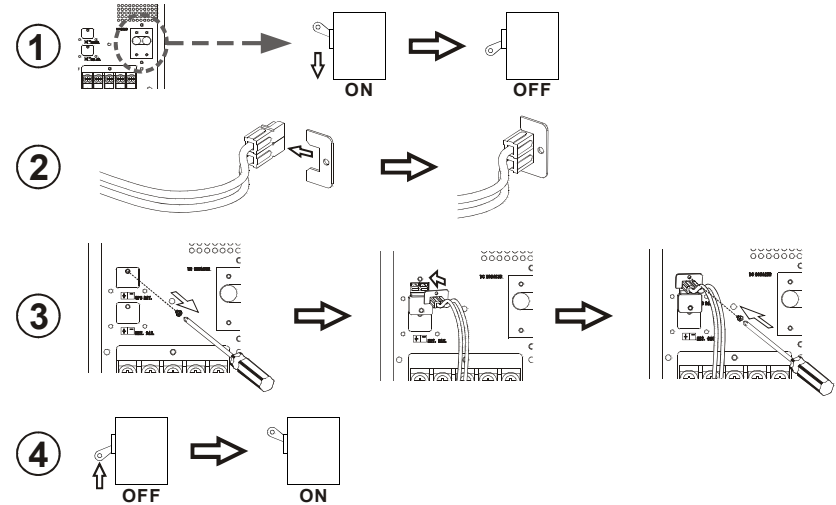
Operating Temperature (Max): 0 to 40 degrees C (+32 to +104 degrees F)
 Operating Elevation: 0 to 3,000m (0 to +10,000 ft)
 Operating and Storage Relative Humidity: 30 - 90%, non-condensing
 Storage Temperature: -15 to +45 degrees C (+5 to +113 degrees F)
 Storage Elevation: 0 to 15,000m (0 to +50,000 ft)

1. Keep at least 20cm (8-inches) clearance from the rear panel of the UPS to the wall.
2. Do not block the airflow to the ventilation openings of the unit.
3. These Battery Packs are intended for a Controlled Environment.
4. Do not place the Battery Pack in an environment near dusty, corrosive or flammable materials.



3.3. Installing the Battery Pack

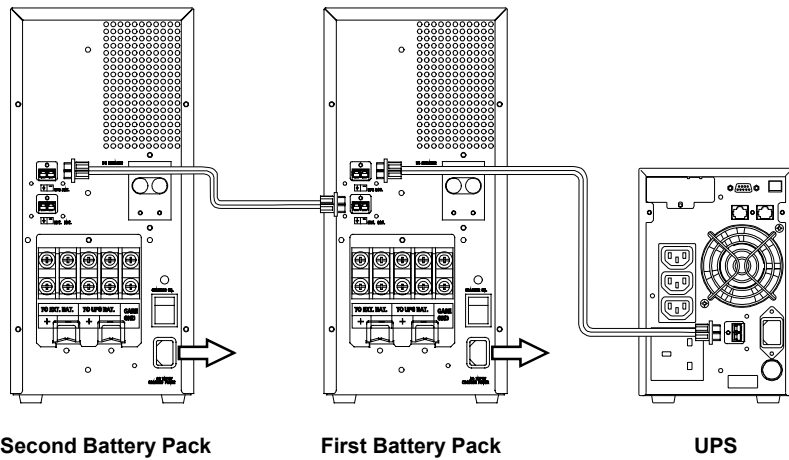
Be sure to read all of the WARNINGS and the CAUTIONS before installing the Battery Pack. Place the Battery Pack in the final desired location and complete the rest of the installation procedure. **USE CAUTION:** The Battery Pack is heavy. Use the appropriate number of personnel when installing the Battery Pack. The installation should be conducted or supervised by a Qualified Service Personnel. It is recommended that the Battery Pack batteries be charged for a minimum of 4-hours before use. The Battery Pack may be used immediately, however, the "On-Battery" runtime may be less than normally expected.



Install the Battery Pack in its final location next to the UPS. The UPS must be in the off position.

1. All of the DC Breakers on the rear panel of all of the Battery Packs must be in the off position.
2. Install the External battery cable strain relief on each end of all of the External battery cables.
3. Remove the retaining screws from the external battery connector cover plates on the rear panel of the UPS and the Battery Pack. Connect the External battery cable to the external battery connector on the rear panel of the UPS (verify polarity, Red to Red and Black to Black). Secure the External battery cable to the rear panel of the UPS with the retaining screw. Connect the other end of the External battery cable to the external battery connector on the rear panel of the Battery Pack (verify polarity, Red to Red and Black to Black). Secure the External battery cable to the rear panel of the Battery Pack with the retaining screw.
4. Once all of the External battery cables are connected turn on all of the DC Breakers on the rear panel of all of the Battery Packs.
5. The Battery Pack installation is complete. See the UPS User's Manual for connecting the equipment and the start-up of the UPS system.

Daisy Chaining Configuration



3.4. Storage Instruction

For extended storage through moderate climate, the batteries should be charged for 24-hours every 3-months. Repeat this every 2-months under high temperature environment.

Chapter Four: Maintenance Guide

4.1. Maintenance

Clean the dust from the ventilation openings and intakes on the rear panel.

1. Turn off the Battery Pack and wipe the case with a damp cloth.
2. Periodically unplug the input power cord of the UPS from the wall outlet to test the batteries.
3. Save all open applications before performing the battery test.

4.2. Replacing the Batteries

(QUALIFIED SERVICE PERSONNEL ONLY)

The CPE Tower Battery Pack has an easy to replace hot-swappable batteries. Please read all of the **WARNINGS** and **CAUTIONS** before attempting to service the batteries.

NOTE: If there is a power interruption while replacing the hot-swappable batteries, with the UPS on, the “On-Battery” runtime may be less than normally expected.

- **USE CAUTION:** These Battery Packs are extremely heavy.
- **WARNING** – This Battery Pack contains potentially hazardous voltages. Do not attempt to disassemble the Battery Pack beyond the battery replacement procedure. This Battery Pack contains no user serviceable parts. The repairs and the Battery replacement must be performed by **QUALIFIED SERVICE PERSONNEL ONLY**.
- **CAUTION** – Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.
- **CAUTION** – Do not dispose of batteries in a fire. The batteries may explode. The batteries in these Battery Packs are recyclable. Dispose of the batteries properly. The batteries contain lead and pose a hazard to the environment and human health if not disposed of properly. Refer to local codes for proper disposal requirements or return the battery to MINUTEMAN.
- **CAUTION** – Although battery system voltages are 36VDC, 72VDC and 96VDC the battery system can still present a risk of electrical shock. These batteries produce sufficient current to burn wire or tools very rapidly, producing molten metal. Observe these precautions when replacing the batteries:
 1. Remove watches, rings, or other metal objects.
 2. Use hand tools with insulated handles.
 3. Wear protective eye gear (goggles).
 4. Wear rubber gloves and boots.
 5. Do not lay tools or other metal parts on top of batteries.
 6. Disconnect the charging source prior to connecting or disconnecting the battery terminals.
 7. Determine if the battery is inadvertently grounded. If the battery is, remove the source of the grounding. Contact with any part of a grounded battery can result in an electrical shock. The likelihood of such shock will be reduced, if such grounds are removed during installation and maintenance.

- **CAUTION** – Replace batteries with the same number and type as originally installed in the Battery Pack. These batteries have pressure-operated vents. These Battery Packs contain sealed non-spillable lead acid batteries.

Model Number	CPEBP1000	CPEBP2000	CPEBP3000
Battery QTY/Rating	9-12V7Ah	18-12V7Ah	16-12V7Ah
CSB Part Number	GP1270 F2	GP1270 F2	GP1270 F2
Panasonic Part Number	LC-R127R2CH1	LC-R127R2CH1	LC-R127R2CH1
Yuasa Part Number	NP7-12	NP7-12	NP7-12

4.3. Battery Replacement Procedure

PLEASE READ THE CAUTIONS AND WARNINGS BEFORE ATTEMPTING TO REPLACE THE BATTERIES

- **CAUTION** - DO NOT short-circuit any of the battery wires to the chassis or to any component.

NOTE: Do not pinch the battery wires with the battery-retaining brackets.

NOTE: It is recommended that you draw a diagram of battery position and the battery connections before disconnecting any of the battery wires.

Hot-swappable batteries mean that the batteries can be replaced without powering down the whole UPS system.

NOTE: If there is a power interruption while replacing the hot-swappable batteries, with the UPS on, the “On-Battery” runtime may be less than normally expected. To hot-swap the batteries start with step 6.

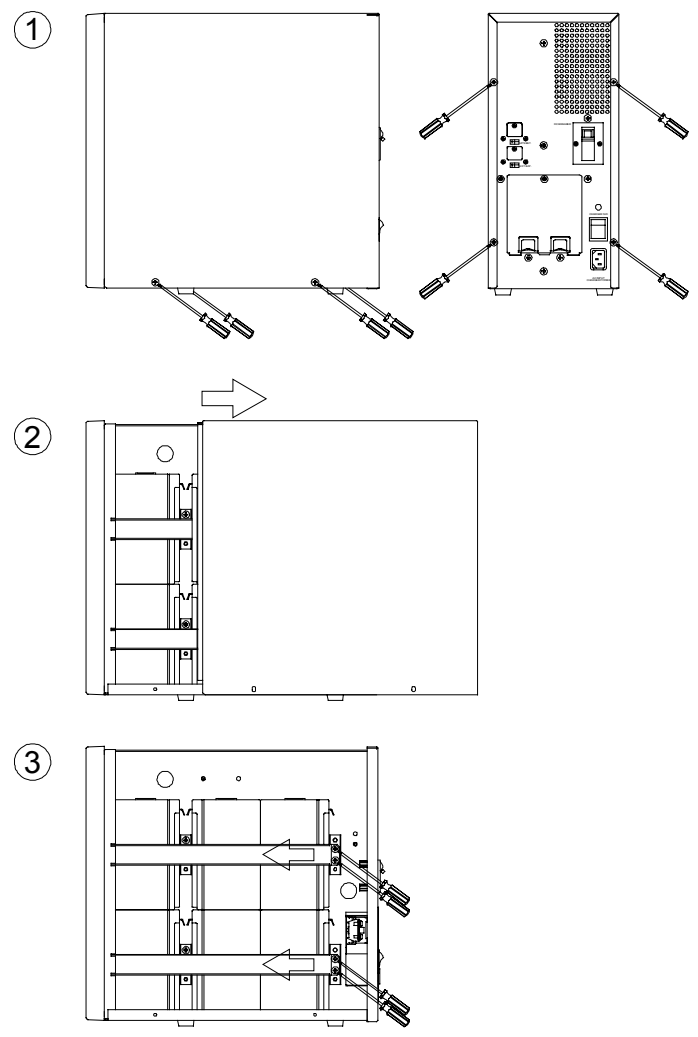
1. Turn off the equipment that is plugged into the output receptacles of the UPS.
2. Press the On/Off switch on the front panel to turn the UPS OFF.
3. Unplug the UPS's Input power cord from the wall outlet.
4. Unplug the equipment from the output receptacles of the UPS.
5. Unplug the computer interface cable from the rear panel of the UPS.
6. Turn ALL of the DC Breakers on the rear panel of ALL of the Battery Packs off.
7. Disconnect ALL of the External battery cables from the rear panel of the UPS and ALL of the Battery Packs.
8. Remove the cover screws.
9. Remove the cover.

10. Disconnect the battery positive (red) wires.

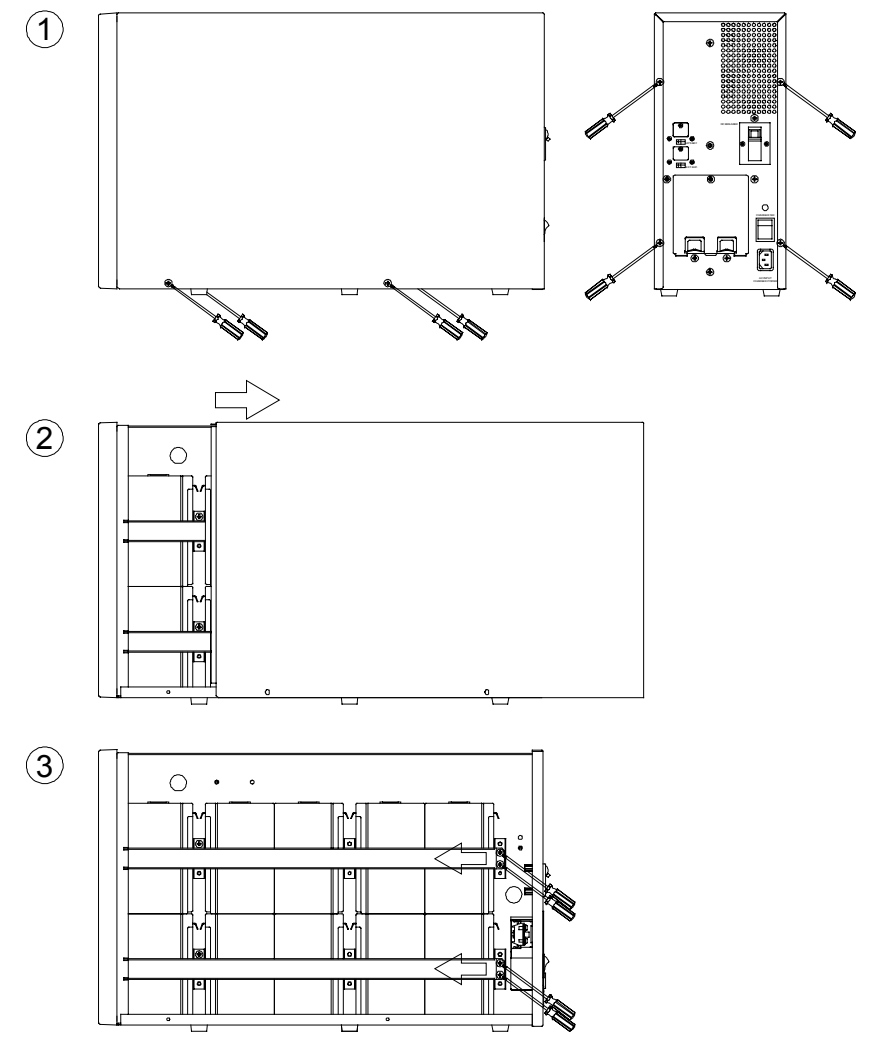
NOTE: Use CAUTION, do not touch the battery positive (red) wire to the battery negative (black) wire or the chassis.

11. Disconnect the battery negative (black) wires.
12. Remove the battery-retaining bracket retaining screws.
13. Remove the battery-retaining brackets.
14. Disconnect the battery jumper wires.
15. Remove the old batteries.
16. Install the new batteries.
17. Reconnect the battery jumper wires.
18. Re-install the battery-retaining bracket (s).
19. Re-install the battery-retaining bracket retaining screws.
20. Reconnect the battery negative (black) wires to the battery negative terminals. Verify proper polarity.
21. Reconnect the battery positive (red) wires to the battery positive terminals. Verify proper polarity.
22. Re-install the cover.
23. Re-install the cover screws.
24. Once all of the batteries have been replaced in all of the Battery Packs reconnect ALL of the External battery cables to the rear panel of the UPS and ALL of the Battery Packs.
25. Turn on ALL of the DC Breakers on the rear panel of the Battery Packs.
26. Reconnect the computer interface cable to the rear panel of the UPS.
27. Plug the equipment into the output receptacles of the UPS.
28. Plug the UPS's Input power cord into the wall outlet.
29. Press the On/Off switch on the front panel to turn the UPS ON.
30. Turn on the equipment.
31. The UPS is now ready for normal operation.
32. Dispose of the old batteries properly at an appropriate recycling facility or return them to the supplier in the packing material for the new batteries.

CPEBP1000



CPEBP2000, CPEBP3000



Appendix

A.1. Specifications

MODEL	CPEBP1000	CPEBP2000	CPEBP3000
PHYSICAL			
Dimensions Net (WxHxD)	7.1x15.2x15.9 inch (180x385x403 mm)	7.1x15.2x24.0 inch (180x385x609 mm)	7.1x15.2x24.0 inch (180x385x609 mm)
Weight Net	72.75 Lbs 33 Kgs	121.25 Lbs 55 Kgs	110.20 Lbs 50 Kgs
Dimensions Shipping (WxHxD)	12.7x20.6x21.6 inch (322x524x549 mm)	12.7x20.6x29.9 inch (322x524x760 mm)	12.7x20.6x29.9 inch (322x524x760 mm)
Weight Shipping	78 Lbs 35 Kgs	126 Lbs 57 Kgs	115 Lbs 52 Kgs
ENVIRONMENT			
Operating Temp	0 to 40°C (+32 to +104°F)		
Storage Temp	-15 to +45°C (+5 to +113°F)		
Operating/Storage Humidity	30 to 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)		
SAFETY CONFORMANCE			
Safety Standard	UL1778, CSA 22.2 (cUL)		
BATTERY			
Type	Sealed, Non-Spillable, Maintenance Free, Valve Regulated, Lead Acid		
Quantity/Rating	9-12V7Ah	18-12V7Ah	16-12V7Ah
System Voltage	36VDC	72VDC	96VDC
System Amp-hour	21.0	21.0	14.0
Recharge Time	8 Hours to 90% from total discharge		
Typical Battery Life	3-5 years, depending on number of discharge cycles and ambient temperature		

A.2. Obtaining Service

If the Battery Pack requires Service:

1. Use the UPS **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 visit our Web site at www.minutemanups.com the "Discussion Board". Please have the following information available BEFORE calling the Technical Support Department.
 - A. Your name and address.
 - B. Where and when the unit was purchased.
 - C. All of the model information about your Battery Pack and UPS.
 - D. Any information on the failure, including LEDs that may be illuminated.
 - E. A description of the protected equipment, including model numbers if possible.
 - F. A technician will ask you for the above information and, if possible, help solve your problem over the phone. In the event that the unit requires factory service, the technician will issue you a Return Material Authorization Number (RMA #).
 - G. If the Battery Pack is under warranty, the repairs will be done at no charge. If not, there will be a charge for repair.
4. Pack the Battery Pack in its original packaging. If the original packaging is no longer available, ask the Technical Support Technician about obtaining a new set. It is important to pack the Battery Pack properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material.
 - A. Include a letter with your name, address, daytime 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.
6. Return the Battery Pack by insured, prepaid carrier to:

Para Systems Inc.
 MINUTEMAN UPS
 1455 LeMay Drive
 Carrollton, TX 75007
 ATTN: RMA # _____

A.3. 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 years 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. 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 un-expired 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.

Longer term and F.O.B. job site warranties are available at extra cost. Contact Para Systems (1-972-446-7363) for details.