

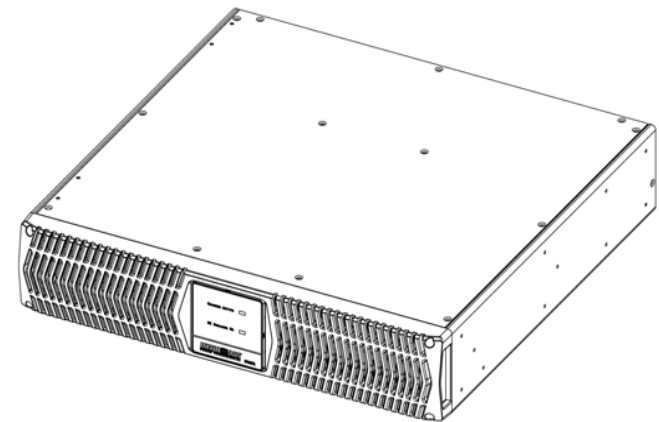
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## **BPRTXL Series Battery Packs**

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### **User's Manual**

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**INTRODUCTION**

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

**IMPORTANT SAFETY INSTRUCTIONS  
SAVE THESE INSTRUCTIONS !**

Please read this manual before installing your BPRTXL Battery Pack, models BP24RTXL, BP36RTXL, BP48RTXL, BP72RTXL as it provides important information that should be followed during installation and maintenance of the Battery Packs 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 Packs please refer to the Troubleshooting guide in this manual to correct the problem or collect enough information so that the Technical Support Department can rapidly assist you.



This symbol indicates "ATTENTION"



This symbol indicates "Risk of Electrical Shock"



This symbol indicates "Alternating Current Supply Phase"



This symbol indicates "Alternating Current Supply"



This symbol indicates "Direct Current Supply"



This symbol indicates "Equipment Grounding Conductor"



**CAUTION!** Connect the Battery Pack to a two pole, three wire, grounded AC wall outlet. The outlet must be connected to the appropriate branch protection (circuit breaker or fuse). Connection to any other type of outlet may result in a shock hazard and violate local electrical codes. The AC wall outlet shall be installed near the Battery Pack and shall be easily accessible. The plug on the input power cord on this Battery Pack series is intended to serve as a disconnect device. Do not use extension cords, adapter plugs, or surge strips.



**CAUTION!** To reduce the risk of electrical shock with the installation of these Battery Packs, with the UPS equipment and the connected equipment, the user must ensure that the combined sum of the AC leakage current does not exceed 3.5mA.



**CAUTION!** This Battery Pack series is ONLY intended to be installed in an indoor temperature controlled environment that is free of conductive contaminants. This Battery Pack series is not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment ANSI/NFPA 75. Select a location which will provide good air circulation for the Battery Pack and UPS at all times.



**WARNING:** These Battery Packs contains potentially hazardous voltages. Do not attempt to disassemble the Battery Pack beyond the battery replacement procedure. These Battery Packs contain no user serviceable parts. Repairs and Battery replacement must be performed by **QUALIFIED SERVICE PERSONNEL ONLY**.



**WARNING:** Risk of Electrical Shock. Hazardous live parts inside these Battery Packs are energized from the battery even when the AC input is disconnected.



**CAUTION! DO NOT USE THE MOUNTING BRACKETS TO LIFT THE BATTERY PACK.** The mounting brackets are ONLY for securing the Battery Pack to the rack.

**CAUTION!** To de-energize the Battery Pack:



1. If the UPS is on press and release the On/Off/Test button.
2. Disconnect the UPS and the Battery Pack from the wall outlet.
3. Turn off the DC breaker on the rear panel of the Battery Pack.
4. Disconnect the battery cable from the rear panel of the UPS.
5. To de-energize the Battery Pack completely, disconnect the batteries.



**WARNING: Qualified Service Personnel ONLY** must perform the Installation and Servicing of these Battery Packs. MINUTEMAN accepts no liabilities and is not limited to: injury to the Service Personnel, or damages to; the Battery Pack, the UPS, or the connected equipment caused by the incorrect installation or servicing of the Battery Packs. These Battery Packs **MUST** be operated with their respective UPS models, see the table below:

BP	BP24RTXL	BP36RTXL	BP48RTXL	BP72RTXL
UPS	ED1000RTXL2U ED1000RTXL2U	E750RTXL2U E1000RTXL2U E1500RTXL2U E1500RTXL2U E750RTXL2Up15	ED1500RTXL2U ED1500RTXL2U ED2000RTXL2U ED2000RTXL2U	E2000RTXL2U E3000RTXL2U E3000RTXL2U E2000RTXL2U ED3000RTXL2U ED3000RTXL2U



**NOTICE:** This equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules and the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference of the Canadian Department of Communications. These limits are designed to provide reasonable protection against such interference in a residential installation. This equipment generates and uses radio frequency and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, this equipment may cause interference to radio and television reception. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Relocate the computer with respect to the receiver.
- Move the computer away from the receiver.
- Plug the computer into a different outlet so that the computer and receiver are on different branch circuits.
- Shielded communications interface cables must be used with this product.



**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Receiving Inspection**

Once you receive the product it should be visually 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 by the manufacturer. The packing materials that the product was shipped in were carefully designed to minimize any shipping damage. In the unlikely case that the product needs to be returned to the manufacturer, use the original packing material. Since the manufacturer is not responsible for shipping damage incurred when the product is returned, the original packing material is inexpensive insurance. **PLEASE SAVE THE PACKING MATERIALS!**

**Life Support Policy**

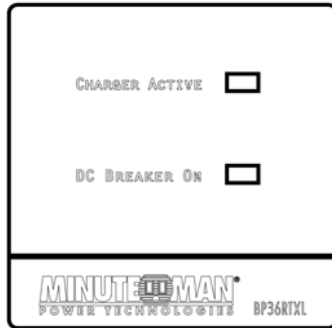
As a general policy, we do not recommend the use of any of our products in life support applications where failure or malfunction of the product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. We do not recommend the use of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



## CONTROLS AND INDICATORS

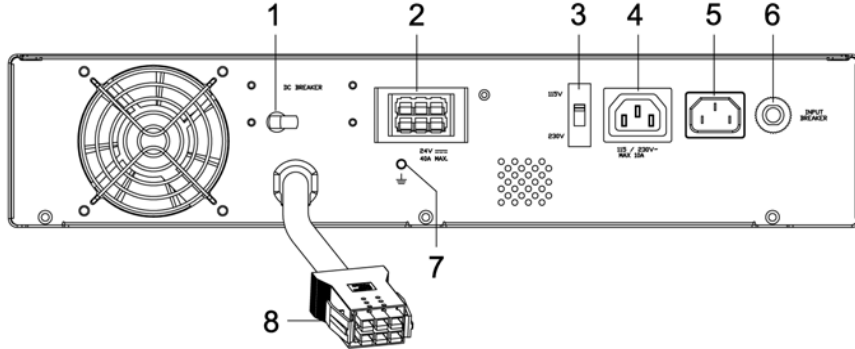
### INDICATOR PANEL



The Charger Active (green) LED illuminates in a steady state when the Charger is on. The Charger Active LED will extinguish when there is no acceptable AC present.

The DC Breaker On (green) LED illuminates in a steady state when the DC breaker is in the On position. The DC Breaker On LED will extinguish when the DC breaker is in the Off position.

### REAR PANEL

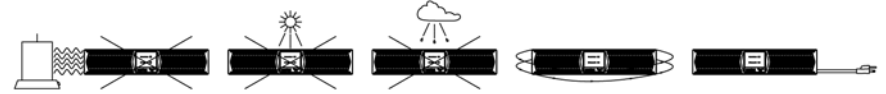


1. The DC Circuit Breaker connects and disconnects the DC bus voltage from the Battery Pack to the UPS. The DC Circuit Breaker will trip in the event of a DC over-current condition.
2. The External Battery connector is for Daisy Chaining additional Battery Packs.
3. The dipswitch is for setting the input voltage for the Battery Pack's internal charger.
4. The AC Inlet is for connecting the output cable to Daisy Chain additional Battery Packs.
5. The AC Inlet is for connecting the input power cord to operate the Charger.
6. The Input Breaker will trip in the event that the Internal Charger draws excessive current.
7. The External Ground Stud is for connecting an external ground wire.
8. The External Battery cable is for connecting the Battery Pack to the UPS or Daisy Chaining additional Battery Packs.



## INSTALLATION

### INSTALLATION PLACEMENT



This Battery Pack series is **ONLY** intended to be installed in an indoor temperature controlled environment that is free of conductive contaminants. DO NOT operate the Battery Pack in: extremely dusty and/or unclean areas, locations near heating devices, water or excessive humidity, or where the Battery Pack is exposed to direct sunlight. Select a location, which will provide good air circulation for the Battery Pack at all times. Route power cords so they cannot be walked on or damaged. This Battery Pack series is not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment ANSI/NFPA 75. Typical battery life is 3 to 5 years. Environmental factors do affect battery life. High temperatures, poor utility power, and frequent, short duration discharges have a negative impact on battery life.

ENVIRONMENTAL	
Operating Temperature (max)	0 to 40°C (+32 to +104°F)
Storage Temperature	-15 to +45°C (+5 to +113°F)
Operating/Storage Humidity	95% Non-Condensing
Operating Elevation	0 to 3,000m (0 to +10,000 ft)
Storage Elevation	0 to 15,000m (0 to +50,000 ft)
Audible Noise at 1 m (3 ft.)	<45 dBA

### INSTALLATION

Be sure to read the installation placement and all the cautions before installing the Battery Pack. Place the Battery Pack in the final desired location and complete the rest of the installation procedure.



**WARNING!** These Battery Packs are extremely heavy. Any time the Battery Pack has to be handled be sure to use, enough personnel, strong supports and equipment to safely handle the Battery Pack.

**CAUTION! DO NOT USE THE MOUNTING BRACKETS TO LIFT THE BATTERY PACK.** The mounting brackets are **ONLY** for securing the Battery Pack to the rack.

## **RACKMOUNT CONFIGURATION**

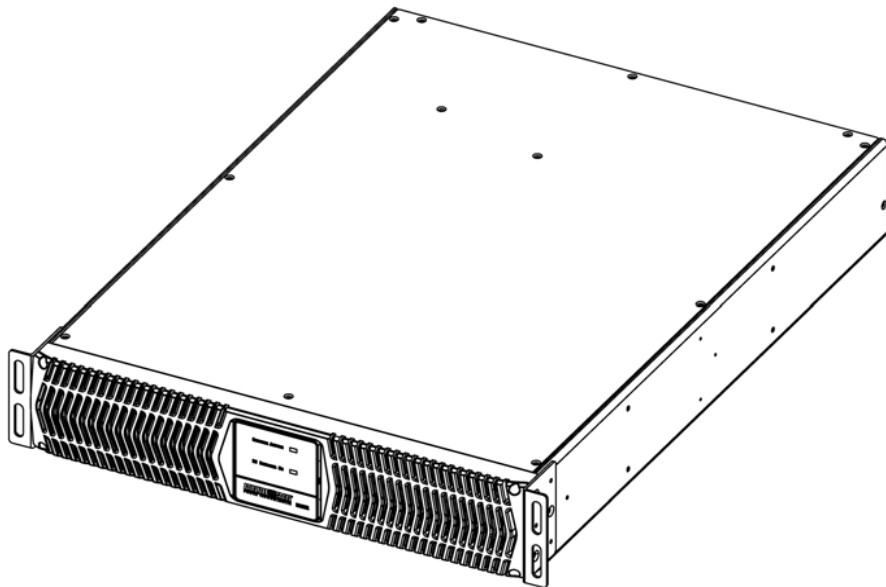
The Battery Pack comes with mounting brackets for the standard 19" (46.5cm) rack installed on the Battery Pack. The mounting brackets to fit a 23" (59.2cm) rack and Rail Kits for 4-post racks and cabinets are also available. The screws for mounting the Battery Pack to the rack are included.



**CAUTION! DO NOT USE THE MOUNTING BRACKETS TO LIFT THE BATTERY PACK.** The mounting brackets are **ONLY** for securing the Battery Pack to the rack.

**NOTE:** The mounting brackets can be mounted in the middle of the Battery Pack.

1. Remove the Battery Pack from the shipping box.
2. Mount the Battery Pack into the rack and secure with the retaining screws.  
**WARNING:** Use two or more people when installing the Battery Pack. Use **CAUTION**, the Battery Pack is extremely heavy. Do not move the rack after the units have been installed. The rack may become unstable due to the weight distribution.
3. The Rackmount Configuration is complete. See Connecting the Battery Pack.



## **TOWER CONFIGURATION**

The tower configuration allows the user to install the Battery Pack in the up-right position next to the UPS and the tower computer. The tower brackets are provided with the Battery Pack. **WARNING:** Use two or more people when installing the Battery Pack. Use **CAUTION**, the Battery Pack is extremely heavy.

1. The Battery Packs come with the rackmount brackets pre-installed. Remove the rackmount brackets when installing in the Tower Configuration.
2. Once the location of the Battery Pack has been determined, place the tower brackets in the desired location.

**WARNING:** The Battery Pack must be installed in the proper up-right position. If the Battery Pack is not installed in the proper up-right position the Batteries will be damaged. Once the Battery Pack is placed in the tower brackets, looking at the front panel of the Battery Pack the top cover of the Battery Pack **MUST** be on your left hand side.

3. Slide the Battery Pack into the tower brackets. Make sure that the Battery Pack is stable.
4. The LED face plate can be rotated to read in the up-right position. Remove the front panel from the Battery Pack. On the backside of the front panel, push the LED face plate outwards the face plate will pop out. Position the LED face plate so that it reads in the up-right position. Re-install the front panel on the Battery Pack.
5. The Tower Configuration is complete. See Connecting the Battery Pack.



## **WALLMOUNT CONFIGURATION**

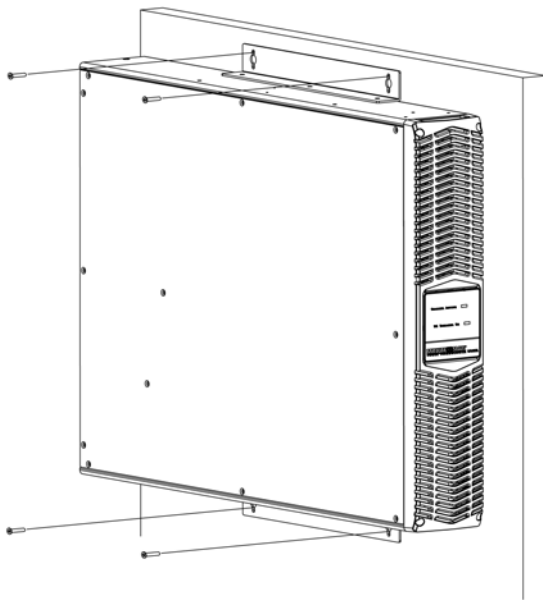
The wallmount configuration allows the user to mount the Battery Pack on the wall. There is a wallmount bracket kit available for the Battery Pack. The kit includes two wall mounting brackets, ten retaining screws, and the wallmount template. **WARNING:** Use two or more people when installing the Battery Pack. Use **CAUTION**, the Battery Pack is extremely heavy. The Battery Pack's side panels have mounting bracket screw holes for attaching the wall mounting brackets.

1. The Battery Packs come with the rackmount brackets pre-installed. Remove the rackmount brackets when installing in the Wallmount Configuration.
2. Once the location and position of the Battery Pack has been determined, lay the Battery Pack down flat.

**WALLMOUNT CONFIGURATION (continued)**

**WARNING:** The Battery Pack must be installed in the proper up-right position. If the Battery Pack is not installed in the proper up-right position the Batteries will be damaged. Once the Battery Pack is placed on the wall, looking at the front panel of the Battery Pack the top cover of the Battery Pack **MUST** be on your left hand side.

3. Align the mounting brackets with the mounting bracket screw holes and attach with the six retaining screws.
4. Use the template to mark the screw hole position on the wall. **CAUTION,** you should always wear protective gear for your hands and eyes when operating power tools.
5. Attach the four retaining screws to the wall and make sure that all of the retaining screws are screwed into structural material. Then clean the area of any loose material. Do not tighten the retaining screws all the way, leave approximately 3/8" of the retaining screws sticking out.
6. Position the Battery Pack, so that the mounting bracket keyed holes line up with the four retaining screws. Slide the Battery Pack down until its resting securely on the four retaining screws.
7. Tighten the four retaining screws to secure the Battery Pack to the wall.
8. The LED face plate can be rotated to read in the up-right position. Remove the front panel from the Battery Pack. On the backside of the front panel, push the LED face plate outwards the face plate will pop out. Position the LED face plate so that it reads in the up-right position. Re-install the front panel on the Battery Pack.
9. The Wallmount Configuration is complete. See Connecting the Battery Pack.

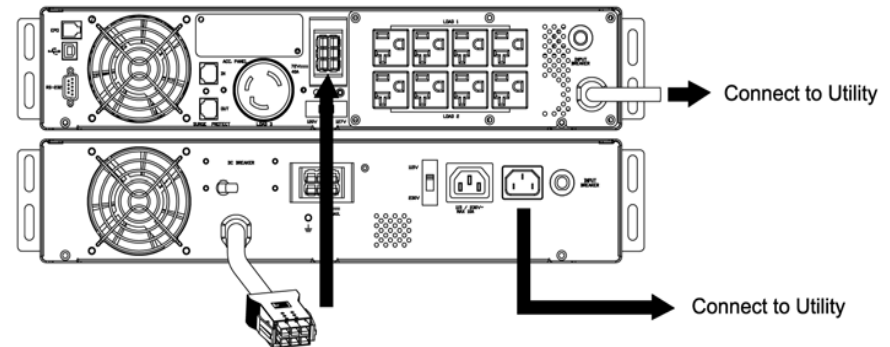


**CONNECTING THE BATTERY PACK**

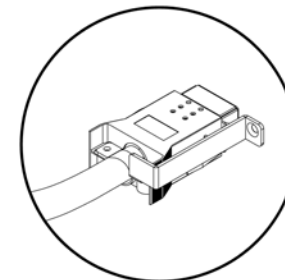
(QUALIFIED SERVICE PERSONNEL ONLY)

**NOTE:** If you are using these Battery Packs with the Enterprise Plus LCD RTX series or the Endeavor LCD RTX series UPS, the UPS must be configured so that the UPS will report the correct estimated runtime on the LCD screen and in the Power Monitoring software and/or the SNMP card. See the Power Monitoring software or the SNMP card's User's Manual to configure the UPS.

1. Make sure that the DC circuit breaker on the rear panel of the Battery Pack is in the Off position.
2. Turn the UPS off and disconnect the UPS's input power cord from the AC wall outlet.
3. Remove the External Battery Connector cover from the UPS's rear panel.
4. Verify, before connecting the Battery Pack's external battery cable into the UPS's external battery connector, that they mate red to red and black to black. **NOTE:** The red connector is the battery positive (+) and the black connector is the battery negative (-). Connect the external battery cable from the Battery Pack to the external battery connector on the UPS. **NOTE:** If connecting more than one Battery Pack see Daisy Chaining.
5. See Connecting the Battery Pack to an AC Source.



**NOTE:** The BP72RTXL's External Battery Cable has a strain relief that must be attached (with the screw) to the rear panel of the UPS.



**BP72RTXL's External Battery Cable with strain relief.**

### CONNECTING THE BATTERY PACK TO AN AC SOURCE

These Battery Packs can operate with 115VAC or 230VAC input voltage. Before connecting the Battery Pack to an AC Source, verify that the Battery Pack's dipswitch is set for the proper input voltage.

1. Set the dipswitch on the rear panel of the Battery Pack to the appropriate input voltage.
2. Connect the input power cord for the Battery Pack into the AC Inlet on the rear panel of the Battery Pack.
3. Plug the other end of the input power cord for the Battery Pack into the AC wall outlet, use a two pole, three wire, grounded AC wall outlet. The AC wall outlet shall be near the Battery Pack and shall be easily accessible. The plug on the input power cord on this Battery pack series is intended to serve as a disconnect device. Do not use extension cords, adapter plugs, or surge strips.
4. Turn the DC circuit breaker to the On position. See the UPS User's Manual for the normal startup of the UPS. **NOTE:** If connecting more than one Battery Pack see Daisy Chaining.

### CHARGING THE BATTERY

The Battery Packs will charge the internal batteries whenever the Battery Pack is connected to an AC source and there is an acceptable AC voltage present. It is recommended that the Battery Packs be charged for a minimum of 4 hours before use. The Battery Pack may be used immediately, however, the "On-Battery" runtime of the UPS may be less than normally expected. **NOTE:** If the Battery Pack is going to be out of service or stored for a prolonged period of time, the batteries must be recharged for at least 24 hours every ninety days.

### DAISY CHAINING

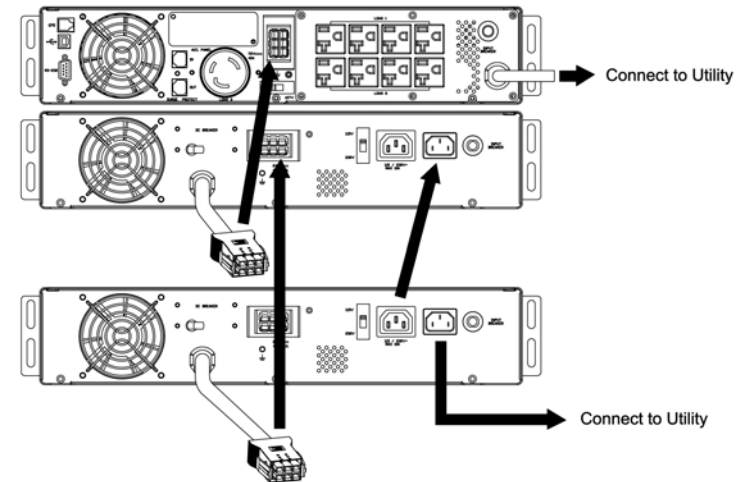
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"Daisy Chaining" means hooking one Battery Pack to another Battery Pack to another Battery Pack, this chain could go on indefinitely. Follow the steps below to Daisy Chain the Battery Packs.

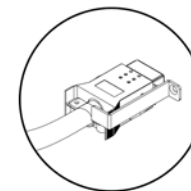
1. Be sure to read the installation placement procedure, all of the cautions and the safety precautions before Daisy Chaining the Battery Pack(s).
2. Make sure that all, the Battery Pack's DC circuit breakers and UPS's power switch, are in Off position. **CAUTION:** If the Battery Pack's DC circuit breaker is in the On position, the battery voltage will be present at the open end of the Battery Pack's external battery cable and external battery connector. Unplug all the equipment that is plugged into the UPS's output receptacles. Disconnect the power cords, that are on the Battery Packs and the UPS, from the AC wall outlet.
3. Remove the External Battery Connector cover from the UPS's rear panel and the additional Battery Packs.
4. Verify, before plugging the external battery cable into the UPS's external battery connector or the Battery Pack's external connector that they mate red to red and black to black.
5. Connect the external battery cable from the first Battery Pack to the external battery connector on the UPS.

6. Connect the external battery cable from the second Battery Pack to the external battery connector on the first Battery Pack.
7. Before connecting the Battery Pack to an AC Source, verify that the Battery Pack is set for the proper input voltage. Set the dipswitch on the rear panel of the Battery Pack to the appropriate input voltage. Connect the input power cord with the NEMA 5-15P Plug into the AC Inlet on the first Battery Pack.
8. Connect the Daisy Chain power cord from the AC Outlet of the of the first Battery Pack to the AC Inlet of the second Battery Pack.
9. Connect the input power cord (with the NEMA 5-15P Plug) from the first Battery Pack into the AC wall outlet, use a two pole, three wire, grounded AC wall outlet. The AC wall outlet shall be near the UPS and shall be easily accessible.
10. Turn ALL of the DC circuit breakers on the rear panel of the Battery Packs to the On position.
11. The Battery Packs are ready for normal operation, see the UPS User's Manual for the normal startup of the UPS.

**NOTE:** The maximum number that can be Daisy Chained for the AC source is five Battery Packs. There is no maximum number for Daisy Chaining the DC bus voltage for the Battery Packs.



**NOTE:** The BP72RTXL's External Battery Cable has a strain relief that must be attached (with the screw) to the rear panel of the UPS.



**BP72RTXL's External Battery Cable with strain relief.**



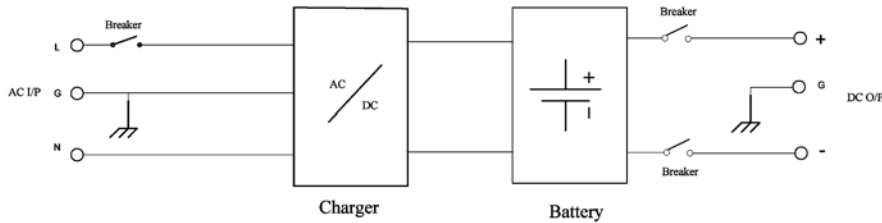
# OPERATION

## 4

### SYSTEM OVERVIEW

These Battery Packs will extend the runtime capabilities of the UPS. These Battery Packs have internal chargers to properly maintain the internal batteries. The charger will operate with 115VAC or 230VAC depending on the dipswitch setting. The Battery Pack will charge the batteries with the DC circuit breaker in the On or Off position as long as the Battery Pack is plugged into the AC wall outlet and there is an acceptable AC voltage present (90 - 130VAC/180 - 260VAC). When the commercial power is lost the charger will turn Off and the Battery Pack will extend the runtime of the UPS. When the commercial power returns the Battery Pack's internal charger will automatically start recharging the batteries. During normal AC operation, the UPS and Battery Pack will quietly and confidently protect your system from power anomalies.

### Block Diagram of the Basic Wiring and Internal Circuit Configuration



### TURNING THE BATTERY PACK ON/OFF

Turning the DC circuit breaker to the On position will connect the DC bus voltage from the Battery Pack to the UPS. Turning the DC circuit breaker to the Off position will disconnect the DC bus voltage from the Battery Pack to the UPS. The DC circuit breaker does NOT turn on or turn off the internal charger. Plug the input power cord into the AC wall outlet to turn on the internal charger. Unplug the input power cord to turn off the internal charger. The Battery Pack's internal charger will continue to charge the batteries whenever it is plugged into an AC wall outlet and there is an acceptable AC voltage present (90 - 130VAC/180 - 260VAC).

### DIPSWITCH SETTINGS

The dipswitch setting may be changed by the user to set the desired input voltage for the Battery Pack's internal charger. The dipswitch must be set with the DC circuit breaker in the Off position and with the input power cord disconnected from the AC wall outlet. Set the dipswitch to 115VAC or 230VAC. Plug the input power cord into the AC wall outlet and turn the DC circuit breaker to the On position.

### INDICATORS

The Charger Active (green) LED illuminates in a steady state when the Charger is on. The Charger Active LED will extinguish when there is no AC present.

The DC Breaker On (green) LED illuminates in a steady state when the DC circuit breaker is in the On position. The DC Breaker On LED will extinguish when the DC circuit breaker is in the Off position.

# TROUBLESHOOTING

## 5

Symptom	Possible Cause	What To Do
The Charger Active LED is not on.	<ol style="list-style-type: none"> <li>1. The input power cord is not plugged into the AC wall outlet.</li> <li>2. No commercial power available.</li> <li>3. No AC voltage at the AC wall outlet.</li> <li>4. Internal charger fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug the input power cord into the AC wall outlet.</li> <li>2. Once commercial power is available recheck the LED.</li> <li>3. Check the circuit breaker at the service panel to see if it is tripped.</li> <li>4. Call for Service.</li> </ol>
The DC Breaker On LED is not on.	<ol style="list-style-type: none"> <li>1. The DC circuit breaker is in the Off position.</li> <li>2. The DC circuit breaker is tripped.</li> <li>3. The internal battery wires are disconnected.</li> <li>4. Internal fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn the DC circuit breaker to the On position.</li> <li>2. Reset the DC circuit breaker.</li> <li>3. Reconnect the internal battery wires.</li> <li>4. Call for Service.</li> </ol>
The charger is not providing the correct charge voltage.	<ol style="list-style-type: none"> <li>1. The input power cord is not plugged into the AC wall outlet.</li> <li>2. The dipswitch is not set to the correct input voltage.</li> <li>3. The charger has an internal fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug the input power cord into the AC wall outlet.</li> <li>2. Set the dipswitch to the correct setting.</li> <li>3. Call for Service.</li> </ol>

# REPLACING THE BATTERY

## 6

### REPLACING THE BATTERY

(QUALIFIED SERVICE PERSONNEL ONLY)

These Battery Packs have an easy to replace hot-swappable batteries. Please read all of the WARNINGS and CAUTIONS before attempting to service the batteries. Typical battery life is 3 to 5 years. Environmental factors do affect battery life. High temperatures, poor utility power, and frequent, short duration discharges have a negative impact on battery life. **NOTE:** If there is a power interruption while replacing the hot-swappable batteries, with the UPS on, the load will not be backed up.

**WARNING!** This Battery Pack contains potentially hazardous voltages. Do not attempt to disassemble the Battery Pack beyond the battery replacement procedure. These Battery Packs contain no user serviceable parts. Repairs and Battery replacement must be performed by **QUALIFIED SERVICE PERSONNEL ONLY**.



**CAUTIONS:** Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.



Do not dispose of batteries in a fire. The batteries may explode. The batteries in this Battery Pack 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 the supplier.

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), rubber gloves and boots.
4. Do not lay tools or other metal parts on top of batteries.
5. Disconnect the charging source prior to connecting or disconnecting the battery terminals.
6. 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 the 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 maintenance free lead acid batteries.

Model #	BP24RTXL	BP36RTXL	BP48RTXL	BP72RTXL
Internal Battery Module Part #	BM0038	BM0033	BM0039	BM0034

### BATTERY REPLACEMENT PROCEDURE

(QUALIFIED SERVICE PERSONNEL ONLY)

#### PLEASE READ THE CAUTIONS AND WARNINGS BEFORE ATTEMPTING TO REPLACE THE BATTERY MODULES

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 load will not be backed up. To hot-swap the Battery Pack's battery modules start with step number 6.

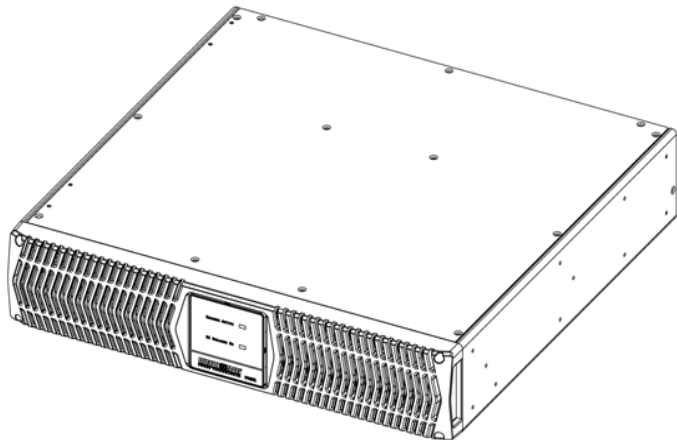
1. Turn off the equipment that is plugged into the output receptacles of the UPS.
2. Press and release the On/Off/Test button on the front panel to turn the UPS off.
3. Unplug the UPS's AC power cord from the AC wall outlet.
4. Unplug the equipment from the output receptacles of the UPS.
5. Unplug the computer interface cable from the rear panel of the UPS.
6. Turn off all of the DC circuit breakers on the rear panel of all of the Battery Packs.
7. Unplug all of the Battery Pack's AC power cords from the AC wall outlet.
8. Disconnect all of the external battery cables.
9. Remove the front panel retaining screws. (FIG. 2)
10. Lay the front panel on top of the Battery Pack.
11. Remove the retaining screws for the battery retaining brackets. (FIG. 3)
12. Remove the battery retaining brackets. (FIG. 3)
13. Disconnect the battery connectors (red and black) from each of the battery modules. (FIG. 4)
14. Grasp one of the battery pull tabs and gently pull the battery module out of the Battery Pack and set on the floor. (FIG. 4)
15. Grasp the other battery pull tab and gently pull the battery module out of the Battery Pack and set on the floor. (FIG. 4)

**NOTE:** Use Caution, the battery modules are heavy.

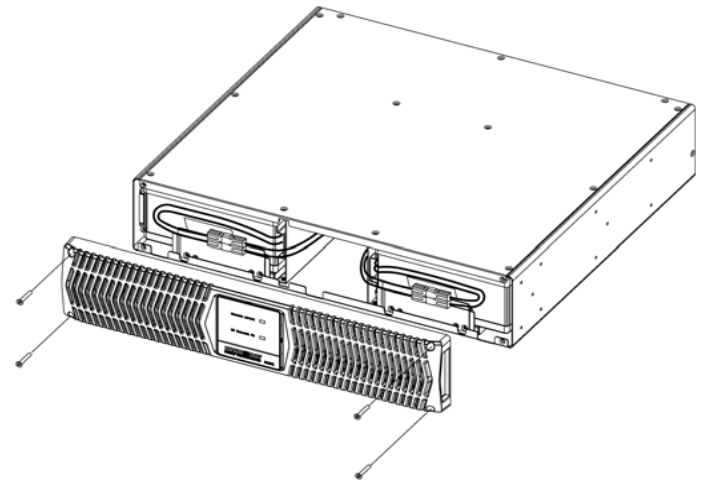
16. Slide the new battery modules into the Battery Pack.
17. Verify proper polarity. Reconnect the battery connectors (red and black).
- NOTE:** Some sparking may occur this is normal.
18. Re-install the battery retaining brackets.
19. Re-install the retaining screws for the battery retaining brackets.
20. Re-install the front panel on the Battery Pack.
21. Re-install the front panel retaining screws.
22. Reconnect all of the external battery cables.
23. Plug in all of the Battery Pack's AC power cords into the AC wall outlet.
24. Turn on all of the DC circuit breakers on the rear panel of all of the Battery Packs.
25. Properly dispose of the old batteries at an appropriate recycling facility or return them to the supplier in the packing material for the new batteries.
26. The Battery Pack is ready for normal operation.

**NOTE:** If the UPS has a Weak/Bad Battery Alarm after replacing the batteries, the user must initiate a self test to clear the Weak/Bad Battery Alarm. To initiate a self test see section 4 "**SELF TEST**" in the UPS's User's Manual.

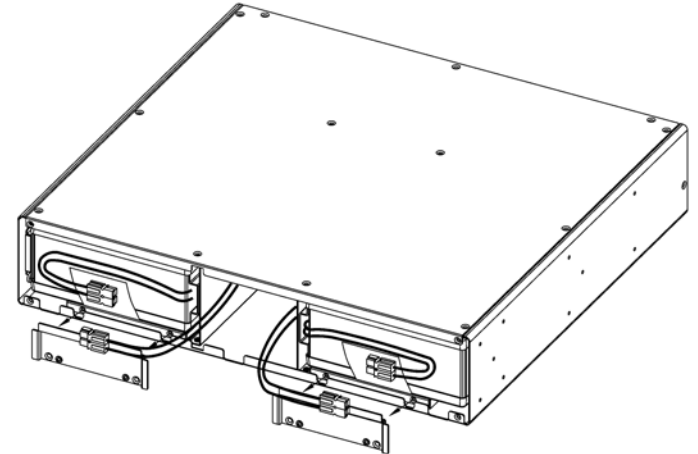
**FIG. 1**



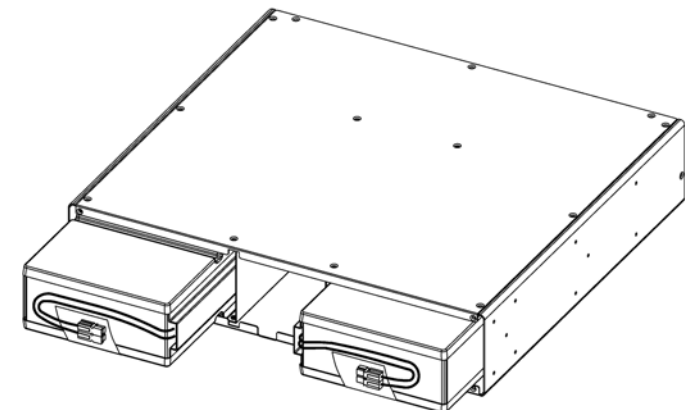
**FIG. 2**



**FIG. 3**



**FIG. 4**



# OBTAINING SERVICE

## IF THE BATTERY PACK REQUIRES SERVICE

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](http://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 technician will issue you a Return Material Authorization Number (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 Technician 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.
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 # \_\_\_\_\_

# SPECIFICATIONS

SYSTEM SPECIFICATIONS				
Model Number	BP24RTXL	BP36RTXL	BP48RTXL	BP72RTXL
Format	Rack/Tower Convertible / Wallmount			
CHARGER INPUT				
Number of Phases	Single (1Ø 2W +G)			
Nominal Voltage	115/230VAC (dipswitch selectable)			
Voltage Range	115VAC: 90 - 130VAC (230VAC: 180 - 260VAC)			
AC Current	2.6 Amps			
Frequency Limits	50 or 60 Hz, +/-6Hz, autosensing			
Input Protection	Resettable Circuit Breaker			
CHARGER OUTPUT				
DC Voltage	27.6VDC +/-5%	41.4VDC +/-5%	55.2VDC +/-5%	82.8VDC +/-5%
DC Current	2.4 Amps			
Output Protection	Resettable Circuit Breaker			
BATTERY SYSTEM				
Battery Type	Sealed, Non-Spillable, Maintenance Free, Value Regulated, Lead Acid			
Typical Recharge Time	8-hours to 90% after full load discharge			
Typical Battery Life	3-5 years, depending on discharge cycles and ambient temp			
System Voltage	24VDC	36VDC	48VDC	72VDC
Battery Module	BM0038	BM0033	BM0039	BM0034
PHYSICAL				
Size - Net L X W X H (rackmount bracket installed)	13.1 x 19.0 x 3.5" 335 x 482.6 x 89 mm	17.0 x 19.0 x 3.5" 432 x 482.6 x 89 mm		
Weight - Net	39.6 lbs 18.0 Kgs	56.0 lbs 25.4 Kgs	66.0 lbs 30.0 Kgs	56.0 lbs 25.4 Kgs
Size - Shipping L X W X H	23.6 x 21.7 x 9.1" 600 x 551 x 230 mm			
Weight - Shipping	49.0 lbs 22.0 Kgs	67.2 lbs 30.5 Kgs	75.0 lbs 34.0 Kgs	67.2 lbs 30.5 Kgs
REGULATORY COMPLIANCE				
Safety and Approvals	cUL (UL1778 4th Edition & CSA 22.2 no. 107.3-05)			
EMC Verification	FCC Class A, CE certified			



## LIMITED PRODUCT WARRANTY

### Notes:

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 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.