

MINUTE MAN
UNINTERRUPTIBLE POWER SUPPLIES

XRT
SERIES

User's Manual

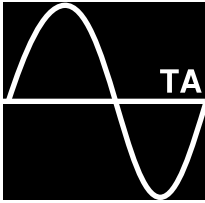
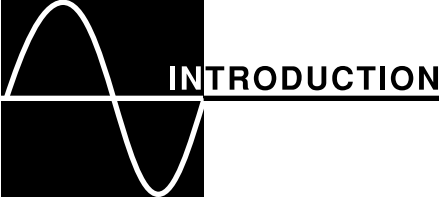


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INTRODUCTION

Thank you for purchasing the Minuteman XRT series of external Battery Packs for your MINUTEMAN Uninterruptible Power Supply system. It has been designed and manufactured to provide many years of trouble-free service.

The batteries used in the XRT series are sealed, maintenance-free, lead-acid batteries, with the electrolyte completely absorbed in the plates and separator material. For maximum battery life, the battery packs should be kept as cool as practical indoors. Expected average battery life is 5 years. Replacement batteries and additional battery packs are available from Minuteman or your local distributor or dealer. Please see the SERVICE POLICY section of this manual about the options available for replacement batteries.

When batteries are replaced, dispose of the batteries according to local regulations or return the batteries to your dealer or distributor for proper disposal. If you cannot dispose of the old batteries, they may be returned to Minuteman for proper disposal. Call Minuteman Technical Support for instructions on returning the batteries.

IMPORTANT!

Please read this manual before installing your Battery Pack, as it provides the information to correctly set up your system for maximum safety and performance. If factory service or customer support is required, information on how to contact Minuteman is included. If you experience a problem with the Battery Pack, please refer to the Troubleshooting Guide in the UPS owner's Manual to correct the problem or collect enough information so the Minuteman Technical Support department can assist you.

RECEIVING INSPECTION

Upon receipt of the Battery Pack, check the outer packaging for any external damage that may have been caused by the carrier. After removing your Minuteman XRT Battery Pack from its carton, inspect the unit again for any damage that may have occurred in shipping. Notify the carrier and place of purchase immediately if any damage is found. Warranty claims for damage caused by the carrier will not be honored.

PLEASE SAVE THE PACKING MATERIALS!

The packing materials in which the Battery Pack was shipped are carefully designed to minimize any shipping damage. In the unlikely event 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.

IMPORTANT SAFETY INSTRUCTIONS: SAVE THESE INSTRUCTIONS - THIS MANUAL CONTAINS IMPORTANT SAFETY INSTRUCTIONS!

Read this manual carefully before operating the UPS. All instructions and warnings should be followed during installation, operation and maintenance of the UPS.



CAUTION: A BATTERY CAN PRESENT A RISK OF ELECTRICAL SHOCK OR BURN FROM HIGH SHORT-CIRCUIT CURRENT. OBSERVE PROPER PRECAUTIONS.



CAUTION: PROPER DISPOSAL OF BATTERIES IS REQUIRED. REFER TO YOUR LOCAL CODES FOR DISPOSAL REQUIREMENTS.



CAUTION: AVOID INSTALLING THE BATTERY PACKS IN LOCATIONS WHERE THERE IS WATER OR EXCESSIVE HUMIDITY.



CAUTION: DO NOT ALLOW WATER OR ANY FOREIGN OBJECTS TO GET INSIDE THE BATTERY PACK. DO NOT PUT OBJECTS CONTAINING LIQUIDS ON OR NEAR THE UNIT.

INSTRUCTIONS IMPORTANTES CONCERNANT LA SÉCURITÉ: CONSERVER CES INSTRUCTIONS. CETTE NOTICE CONTIENT DES INSTRUCTIONS IMPORTANTES CONCERNANT LA SÉCURITÉ.



ATTENTION: UNE BATTERIE PEUT PRÉSENTER UN RISQUE DE CHOC ÉLECTRIQUE, OU DE BRULURE PAR TRANSFERT D'ENERGIE. SUIVRE LES PRÉCAUTIONS QUI S'IMPOSENT.



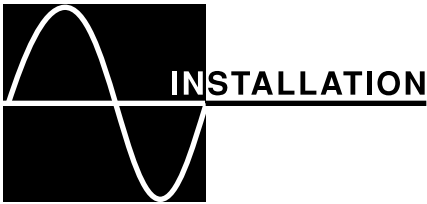
ATTENTION: L'EMINATION DES BATTERIES EST RÉGLEMENTÉE. CONSULTER LES CODES LOCAUX À CET EFFET.



ATTENTION: NE PAS INSTALLER LA SOURCE BATTERIE DANS UN ENDROIT OÙ IL Y A DE L'EAU OU UNE HUMIDITÉ EXCESSIVE.



ATTENTION: NE PAS LAISSER DE L'EAU OU TOUT OBJET PÉNÉTRER DANS LA SOURCE BATTERIE. NE PAS PLACER DE RÉCIPIENTS CONTENANT UN LIQUIDE SUR CET APPAREIL, NI À PROXIMITÉ DE CELUI-CI.



CAUTIONS:

It is recommended that you turn the UPS off and disconnect it from the AC wall outlet prior to connecting or disconnecting the battery terminals. If battery packs **MUST** be changed while the UPS is supplying power to protected equipment, they can **ONLY** be changed while the AC line is supplying power. **DO NOT** attempt to replace batteries or battery packs while the UPS is in battery backup mode. Be extremely careful while plugging or unplugging additional battery packs. Insure that the cable connectors have the proper polarity aligned before plugging them together. Improper alignment may result in a short circuit that can destroy the battery packs and the UPS, as well as cause a fire and injury hazard.

If a unit must be opened to replace the batteries, the following precautions must be followed.

1. Disconnect all receptacles, line cords and battery connectors **BEFORE** removing the case screws.
2. Remove watches, rings, and other metallic jewelry before servicing the batteries.
3. Use tools with insulated handles.
4. Wear protective gloves and eyewear.
5. Do not lay tools or other objects on top of the batteries.
6. It is recommended that you make yourself a sketch of the batteries and their connections **BEFORE** you attempt to remove the old batteries. Insure all connections to the new batteries are **EXACTLY** the same as they were on the old batteries.
7. Verify that all battery brackets and mechanical fittings are replaced exactly as they were removed.



INSTALLATION PLACEMENT:

Select the location of the battery pack(s) with care and use the following precautions;

1. Avoid locations near heating devices.
2. Avoid locations near water or excessive humidity.
3. Do not expose the Battery Pack to direct sunlight.
4. Route power cords where they cannot be walked on or damaged.

The battery packs and UPS unit must be placed on a level, smooth surface and cannot be stacked more than 4 units high. All battery packs that exceed 80 Lbs. must **NOT** be stacked more than 2 units high. The UPS control unit must be installed on the side of the battery packs with proper spacing between battery pack(s) and UPS, or on top of the battery pack(s). **DO NOT** attempt to install battery packs on top of the control unit.

BATTERY PACK CASTER REMOVAL:

Some Battery Pack cases are supplied with casters and provided with replacement rubber feet. If mobility is not required, or if the Battery Packs are to be stacked, the casters on the upper Battery Packs must be removed and replaced by the rubber feet. Follow the instructions below to install the rubber feet.

1. Move the Battery Pack into the area of its final location.
2. Remove the Battery Pack from the wooden skid.
3. Using appropriate support, raise the Battery Pack high enough to gain access to the bolts securing the casters.

WARNING! Weight of the Battery Packs vary by model and are extremely heavy. Use enough people, strong enough supports and equipment to safely manipulate the Battery Packs.

4. Remove the four bolts securing the casters with the appropriate size open-end wrench.
5. After removing each caster, screw the rubber feet into the holes provided.



A suggested layout for stacking multiple battery packs should be determined by the technician performing your installation. Each installation is unique to the job site and should be reviewed and planned PRIOR to moving this heavy equipment. Measuring the equipment and the installation site may be required. Always make sure your floor strength is sufficient to handle extreme weight when installing this heavy equipment.

NOTE: Some MINUTEMAN XRT Battery Packs are designed for quick connection (Plug and Play), while some are designed for hand wiring by a qualified technician or electrician. Use appropriate cautions for each model.

INSTALLATION PROCEDURES:

NOTE: MINUTEMAN XRT BATTERY PACKS ARE AVAILABLE IN MULTIPLE CONFIGURATIONS. MAKE SURE YOU FOLLOW THE PROCEDURES FOR THE CONFIGURATION STYLE WHICH YOU ARE INSTALLING.

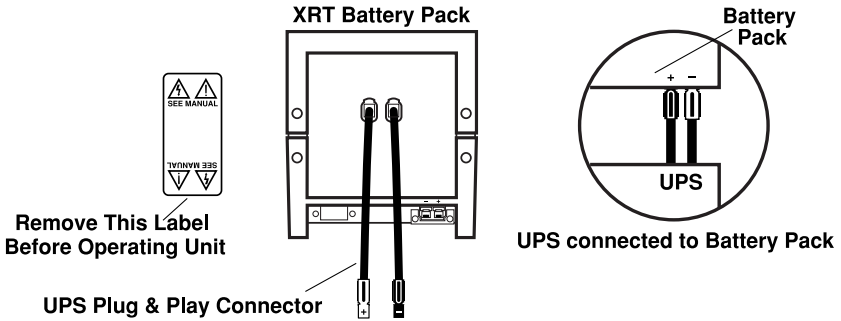
STYLE 1: PLUG & PLAY CONFIGURATION

STYLE 2: HARDWIRE CONFIGURATION

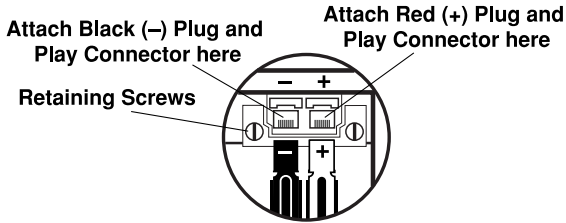
STYLE 3: HARDWIRE AND PLUG & PLAY COMBINATION CONFIGURATION

STYLE 1: PLUG & PLAY CONFIGURATION INSTALLATION

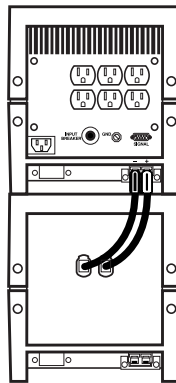
1. Make sure the installation placement and caster removal procedures mentioned above have been carefully followed.
2. Make sure the UPS Power switch is in the OFF position. If this model of battery pack contains a circuit breaker, be sure that the Battery Pack circuit breaker is in the OFF position.
3. Remove the self-stick protective strip from the rear of the UPS (not required on all units) and from the battery pack cable.



- Loosen but do not remove the retainer screws on the rear panel of the UPS, then drop the retainer bracket down. This retaining bracket is not present on all models.



- Plug the cable connector into the XRT UPS remote battery pack connector, insuring the connectors mate Red to Red and Black to Black.



Typical XRT battery connection

- Push the retaining bracket "up" to secure the battery connector in place and retighten the screws (not required on all models). **Note:** if the retaining bracket will not slide up, the connector is not securely



installed all of the way into the receptacle. Upon successful connection, verify that the bracket will not allow removal of the connector.

For multiple battery pack installation, each battery pack is "daisy chained" in a similar fashion, with the cable from the last battery pack connected to the previous pack. Remove the protective strips only from the battery connectors that you use.

NOTE: When the protective strip is removed from the XRT UPS or the XRT Battery Pack cable and daisy-chain battery connector, battery system voltage is present at these connector contacts (48vdc, depending on model). Be sure the connector contacts are covered with the protective strip when not mated with another connector.

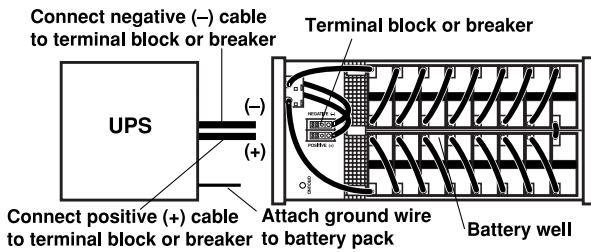
7. The unit is now ready for normal startup procedures as described in the UPS owner's manual. Make sure all switches and breakers on all units installed are placed in the ON position. Failure to have all of the switches in the ON position may render the UPS inoperable or reduce the runtime when multiple battery packs are installed.

STYLE 2: HARDWIRE CONFIGURATION INSTALLATION

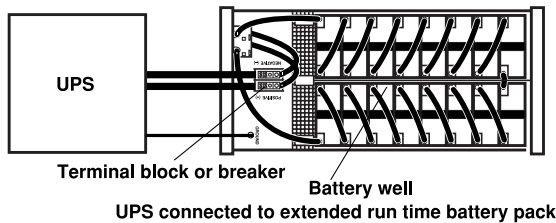
1. Make sure the installation placement and caster removal procedures mentioned above have been carefully followed.
2. Be sure the UPS Power switch is in the **OFF** position. If this model of battery pack contains a circuit breaker, make sure the battery pack circuit breaker is in the **OFF** position.
3. For installation of the battery pack connection wires, locate the terminal block on the back of the UPS. To properly identify the terminal block, refer to the Installation section in the UPS owner's manual.

- In order to locate the terminal block on the battery pack you will need to remove the top cover of the battery pack. **Note:** On some models, the terminal block may be accessed from the rear panel of the battery pack.

Warning: When the cover is removed, danger of shock exists from the batteries. Use extreme caution.



- Connect the positive connection of the battery pack to the positive connection on the UPS. Connect the negative connection of the battery pack to the negative connection on the UPS. **Carefully verify that the polarity is correct.** Not all battery packs are provided with connection wires. If your battery pack is not provided with wires, you must use 8 gauge wire for these connections. A third wire may be connected from chassis to chassis to provide a safety ground for the battery pack case (not required).



- After all connections have been made and verified to be correct, reinstall the cover on the battery pack if it was removed. Insure all cover screws are installed.



7. Reinstall the cover plates on the back of the UPS if they were removed.
8. The unit is now ready for normal startup procedures as described in the UPS owner's manual. Make sure all switches and breakers on all units installed are placed in the ON position. Failure to have all of the switches in the ON position may render the UPS inoperable or reduce the runtime when multiple battery packs are installed.

For multiple battery pack installation, each battery pack is "daisy chained" in a similar fashion, with the cable from the last battery pack connected to the previous pack. Remove the protective strips only from the battery connectors that you use.

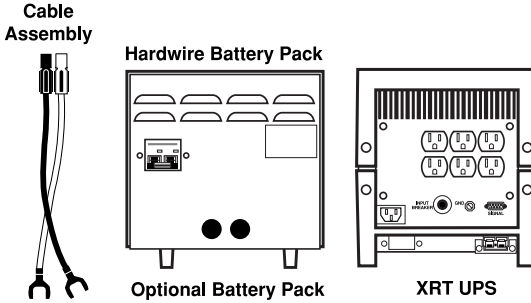
STYLE 3: HARDWIRE AND PLUG & PLAY COMBINATION CONFIGURATION INSTALLATION INSTRUCTIONS.

1. Make sure the installation placement and caster removal procedures mentioned above have been carefully followed.
2. Be sure the UPS Power switch is in the **OFF** position. If this model of battery pack contains a circuit breaker, make sure the battery pack circuit breaker is in the **OFF** position.
3. Locate the terminal block or plug & play connection on the back of both the UPS and Battery Pack for installation of the Battery Pack connection wires. To locate and properly identify the connection points, refer to the Installation section of the UPS owner's manual. To locate the terminal block on the Battery Pack, you may need to remove the top cover of the Battery Pack.

Note: On some models, the terminal block may be accessed from the rear panel of the battery pack.

4. When connecting this configuration, you may have Plug and Play connections on either the UPS or the battery pack. This will be determined by which model you have. The drawing below will reflect a Plug and Play connection on the battery pack and a hardwire connection on the UPS. Your application may be reversed.

Note: On all MINUTEMAN Plug and Play configurations, the red connector is battery positive and the black connector is battery negative.



5. After all connections have been made and verified to be correct, reinstall the cover on the battery pack if it was removed. Insure all cover screws are installed.
6. Reinstall the cover plates on the back of the UPS if they were removed.
7. The unit is now ready for normal startup procedures as described in the UPS owner's manual. Make sure all switches and breakers on all units installed are placed in the **ON** position. Failure to have all of the switches in the **ON** position may render the UPS inoperable or reduce the runtime when multiple battery packs are installed.

For multiple battery pack installation, each battery pack is "daisy chained" in a similar fashion, with the cable from the last battery pack connected to the previous pack. Remove the protective strips only from the battery connectors that you use.

STORAGE INSTRUCTIONS

If the Battery Pack is to be stored and not used for an extended period of time, allow the batteries to fully charge for 24 hours. The unit should then be kept in a cool, dry location. For extended storage in moderate climates, the batteries should be charged for 8 hours every 3 months. Repeat this operation every 2 months in high temperature locations.



If the Battery Pack requires service:

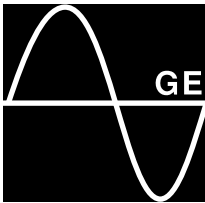
Before returning a defective unit to Minuteman, please follow the standard procedures listed below.

1. Call your dealer for assistance. If you cannot reach your dealer, or if the problem cannot be resolved, call or fax Minuteman's Technical Support department at the following numbers:
Voice - 972-446-7363, Fax - 972-446-9011
E-Mail - support@minuteman-ups.com
2. Please have the following information available BEFORE calling technical support.
 - A. Your name, address and phone number.
 - B. Where and when the unit was purchased.
 - C. All of the model information on the rear of the Battery Pack and the model number of the Minuteman UPS to which it is connected.
 - D. Any information on the failure, INCLUDING Error Codes or Error Messages shown by the UPS.
 - 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 the unit requires factory service, the technician will issue a Return Material Authorization Number (RMA#).
 - G. If the Battery Pack is under warranty, the repairs will be done at no charge. If not under warranty, there will be a charge to repair the unit.
3. If the Battery Pack is to be returned to Minuteman, pack it 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.

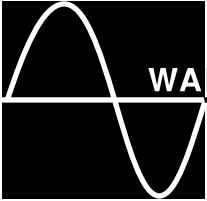


4. Include a letter with your name, address, daytime phone number, RMA #, a copy of your original sales receipt, and a brief description of the trouble.
5. Mark the RMA # on the outside of all packages. The factory cannot accept any package without the RMA # marked on the outside.
6. Return the Battery Pack by insured, prepaid carrier to:
Minuteman UPS
1455 LeMay Drive
Carrollton, TX 75007
RMA # XXXX(ININSERT RMA NUMBER HERE)



GENERAL PRODUCT SPECIFICATIONS

FOR SPECIFICATIONS, REFER TO THE OWNERÆS MANUAL PROVIDED WITH THE UPS OR CONTACT YOUR LOCAL DISTRIBUTOR AND/OR MINUTEMAN.



WARRANTY INFORMATION

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 original purchase by the end user. 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 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 System-approved personnel; or (c) has been used in a manner contrary to the product's operating 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.



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