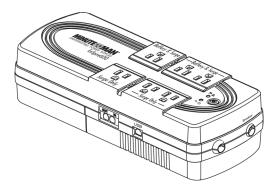


# Enspire Series UPS

# **User's Manual**





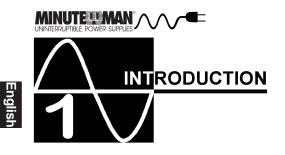


English



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1



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 Enspire Series UPS, models <u>EN400, EN600</u> as it provides important information that should be followed during installation and maintenance of the UPS 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 UPS 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 UPS to a two pole, three wire grounding AC wall outlet. The receptacle must be connected to the appropriate branch protection (circuit breaker or fuse). Connection to any other type of receptacle may result in a shock hazard and violate local electrical codes. Do not use extension cords, adapter plugs, or surge strips.



**CAUTION!** To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over-current protection in accordance with the National Electric Code, ANSI/NFPA 70.



**CAUTION!** To reduce the risk of electrical shock with the installation of this 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!** To reduce the risk of electrical shock in conditions where the load equipment grounding cannot be verified, disconnect the UPS from the AC wall outlet before installing a computer interface cable. Reconnect the power cord only after all signaling connections are made.



**WARNING:** This Uninterruptible Power Supply contains potentially hazardous voltages. Do not attempt to disassemble the UPS beyond the battery replacement procedure. This UPS contains 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 power supplies are energized from the battery even when the AC input is disconnected.

CAUTION! To de-energize the outputs of the UPS:



- 1. If the UPS is on press and release the On/Off Button.
- 2. Disconnect the UPS from the AC wall outlet.
- 3. To de-energize the UPS completely, disconnect the battery.

#### 

**NOTICE:** This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules and the Class B 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:

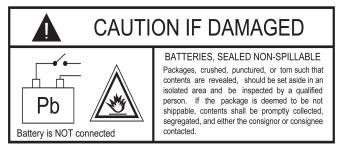
- Re-orient the receiving antenna.
- Relocate the computer with respect to the receiver.
- Move the computer away from the receiver.
- Plug the computer into a different outlet so that the computer and receiver are on different branch circuits.
- Shielded communications interface cables must be used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

After removing your UPS 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 UPS was shipped in are carefully designed to minimize any shipping damage. In the unlikely case that the UPS needs to be returned to the manufacturer, please use the original packing material. Since the manufacturer is not responsible for shipping damage incurred when the system is returned, the original packing material is inexpensive insurance. **PLEASE SAVE THE PACKING MATERIALS!** 



**NOTE:** These UPSs are shipped with the batteries disconnected. The batteries must be connected before putting these UPSs into service. Refer to Section 3 "Installation" for connecting the batteries.

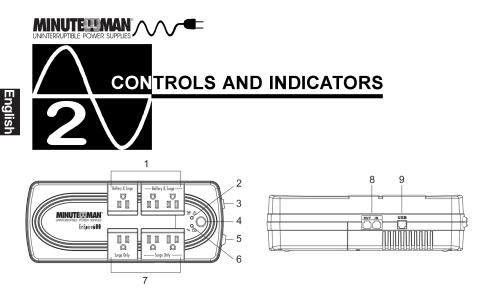


# Life Support Policy

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.

Hospital grade wiring devices and leakage current may be ordered as options on many of our UPS systems. We do not claim that units with this modification are certified or listed as Hospital Grade by us or any other organization. Therefore, these units do not meet the requirements for use in direct patient care.



- 1. The Battery Backup and Surge output power receptacles.
- 2. The Low Battery/Overload/Fault (Red) LED. The Low Battery/Overload/ Fault (Red) LED illuminates in a steady state when the UPS has an internal fault and the audible alarm will be continously beeping. The Low Battery/Overload/Fault (Red) LED blinks when the UPS is Overloaded and the audible alarm will sound one beep every half second. The Low Battery/ Overload/Fault (Red) LED blinks when the UPS reaches a Low Battery Warning and the audible alarm will sound two beeps every five seconds. The Low Battery/Overload/Fault (Red) LED blinks when the battery is weak or needs to be replaced and the audible alarm sounds three beeps every thirty seconds.
- 3. The input circuit breaker will trip in the event the output load exceeds the UPS's power rating.
- 4. On/Off Button.
- 5. The input power cord.
- 6. The On Utility/On Battery (Green) LED. The On Utility/On Battery (green) LED illuminates in a steady state when the UPS is on and operating in the AC normal mode. The On Utility/On Battery LED blinks when the UPS is operating in the Battery mode and the audible alarm will sound one beep every five seconds.
- 7. The Surge Only output power receptacles.
- 8. The RJ11/45 modular connectors are used for single line phone/fax/modem protection.
- 9. The RJ45 connector is for the USB communications port for UPS monitoring and control.

| Model # | Input Power Plug       | Output Power Receptacles            |  |
|---------|------------------------|-------------------------------------|--|
| EN400   | NEMA 5-15P W/6 ft cord | 3-NEMA 5-15R Surge Only             |  |
| EN600   |                        | 3-NEMA 5-15R Battery Backup & Surge |  |





#### **INSTALLATION PLACEMENT**



This UPS series is intended to be install in a temperature controlled environment that is free of conductive contaminants. Select a location which will provide good air circulation for the UPS at all times. Avoid locations near heating devices, water or excessive humidity, or where the UPS is exposed to direct sunlight. Route power cords so they cannot be walked on or damaged.

| ENVIRONMENTAL                                  |   |  |  |
|--|---|--|--|
| Operating Temperature:<br>Operating Elevation: | 0 to 40 degrees C (+32 to +104 degrees F) at<br>0 to 1,500m (0 to +5,000 ft)    |  |  |
| Operating Temperature:<br>Operating Elevation: | 0 to 35 degrees C (+32 to +95 degrees F) at<br>1501 to 3,000m (0 to +10,000 ft) |  |  |
| Storage Temperature:                           | -15 to +45°C (+5 to +113°F)   |  |  |
| Operating/Storage Humidity:                    | 95% Non-Condensing  |  |  |
| 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 UPS. Place the UPS in the final desired location and complete the rest of the installation procedure. These UPSs are shipped with the internal batteries disconnected. The batteries must be connected before putting these UPSs into service. See the Connecting The Batteries procedure to connect the batteries.

#### WALLMOUNTING

The wallmount configuration allows the user to mount the UPS on the wall. The UPS's back panel has keyed mounting holes for attaching the UPS to the wall.

- 1. Once the location and position of the UPS has been determined, use the template to mark the screw hole position on the wall. **CAUTION**, you should always were protective gear for your hands and eyes when operating power tools.
- Attach the two retaining screws (provided) to the wall and make sure that 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 in, leave approximately 3/16" of the retaining screws sticking out.
- Position the UPS, so that the keyed mounting holes line up with the two retaining screws. Slide the UPS down until it is resting securely on the retaining screws.
- 4. The Wallmount Configuration is complete. See Connecting your Equipment.



#### **CONNECTING THE BATTERIES**

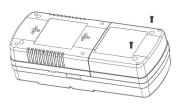
(QUALIFIED SERVICE PERSONNEL ONLY)

Please read all of the **WARNINGS** and **CAUTIONS** before attempting to connect the batteries.

- 1. Remove the UPS from the shipping box and set on the floor or a bench top.
- 2. Place the UPS receptacle side down.
- 3. Remove the battery compartment retaining screws. (FIG. 1)
- 4. Remove the battery compartment cover. (FIG. 2)
- 5. Verify proper polarity. Connect the battery positive (Red) wire to the battery positive (Red) terminal. (FIG. 3)
- **NOTE:** Some sparking might occur, this is normal.
- 6. Re-install the battery compartment cover onto the UPS.

WARNING: DO NOT pinch the battery wires with battery compartment cover.

- 7. Re-install the battery compartment retaining screws.
- 8. Continue with the rest of the Installation.



<u>FIG. 2</u>

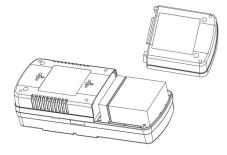
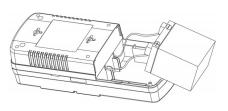


FIG. 3





#### CONNECTING YOUR EQUIPMENT

Plug the critical equipment into the Battery Backup & Surge output receptacles on the UPS. Plug the non-critical equipment into the Surge Only output receptacles on the UPS. Do not use extension cords, adapter plugs or surge strips on the output of the UPS. Ensure that you do not exceed the maximum output rating of the UPS (refer to the information label or the electrical specifications in this manual).

**CAUTION! DO NOT** connect a laser printer to the output receptacles on the UPS.



### CONNECTING THE UPS TO AN AC SOURCE

CAUTION - To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over-current protection in accordance with the National Electric Code, ANSI/NFPA 70. Plug the UPS into a two pole, three wire, grounded receptacle only. Do not use extension cords, adapter plugs, or surge strips.

#### **CHARGING THE BATTERY**

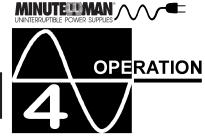
The UPS will charge the internal batteries whenever the UPS is connected to an AC source and there is an acceptable AC voltage present (100 - 140VAC). It is recommended that the UPS's batteries be charged for a minimum of 4 hours before use. The UPS may be used immediately, however, the "On Battery" runtime maybe less than normally expected. **NOTE:** If the UPS is going to be out of service or stored for a prolonged period of time, the batteries must be recharged for at least twenty-four hours every ninety days.

#### RJ45 USB COMMUNICATIONS PORT CONNECTION (OPTIONAL)

The Power Monitoring Software can be used with the UPS. Use only the interface cable that comes with the UPS. Connect the USB cable (RJ45 end) to the RJ45 USB communications port on the side of the UPS. Connect the other end of the USB cable to the device that will be monitoring/controlling the UPS. **NOTE:** Connecting to the communications port is optional. The UPS works properly without this connection.

#### PHONE/FAX/MODEM PROTECTION CONNECTION (OPTIONAL)

Connect a single line phone, fax or modem line to the RJ-11/45 modular connectors on the side of the UPS. This connection will require another length of telephone cable (provided). The cable coming from the telephone service is connected to the port marked "IN". The equipment to be protected is connected to the port marked "OUT". **NOTE:** Connecting to the phone/fax/modem modular connectors is optional. The UPS works properly without this connection.



#### **SYSTEM OVERVIEW**

This UPS protects computers, internetworking, security, and telecommunications equipment from blackouts, brownouts, overvoltages, and surges. During normal AC operation, the UPS will quietly and confidently protect your system from power anomalies.

The UPS will charge the batteries with the UPS in the on or off position when the UPS is plugged into the wall outlet and there is an acceptable AC voltage present (100 - 140VAC). When a blackout, brownout, or an overvoltage condition occurs; the UPS will transfer to the battery mode, the On Battery indicator will illuminate and the audible alarm will sound once every five seconds indicating that the commercial power is lost or unacceptable. When the commercial power returns or is at an acceptable level, the UPS will automatically transfer back to the AC normal mode and start recharging the batteries. During an extended outage when there is approximately two minutes of backup time remaining the audible alarm will sound twice every five seconds. This Low Battery Warning is letting the user know that they should save all open files and turn off their computer. When the batteries reach the predetermined level the UPS will automatically shutdown protecting the batteries from over discharging. Once the commercial power returns the UPS will automatically restart, providing safe usable power to the connected equipment and start recharging the batteries

### **TURNING THE UNIT ON/OFF**

#### On / Off Button

Press and hold the On/Off Button for one beep then release the On/Off Button to turn the UPS on and supply power to the load. The load is immediately powered while the UPS runs a five second self test. Press the On/Off Button for at least one second then release the On/Off Button to turn the UPS off. The UPS will continue to charge the batteries whenever it is plugged into a wall outlet and there is an acceptable AC voltage present.



#### **RJ-45 USB COMMUNICATIONS PORT**

The USB communications protocol is HID. The HID USB driver comes standard in the Windows OS. Simply plug the USB cable into the UPS and the computer then follow the prompts on the screen.

#### POWER MONITORING SOFTWARE

The UPS comes with power monitoring software. See the software CD for the installation of the power monitoring software.

### ALARMS

#### ON BATTERY

When the UPS is operating on the batteries, the On Battery LED will illuminate and the audible alarm will sound once every five seconds. The alarm will stop once the UPS returns to the AC normal mode.

#### LOW BATTERY WARNING

The UPS will sound two beeps every five seconds when the battery reserve runs low. This condition will continue until AC returns or the UPS shuts down from battery exhaustion.

#### WEAK/BAD BATTERY

The UPS automatically tests the battery's condition and will illuminate the Low Battery/Overload/Fault LED and sound the alarm. This alarm will be repeated until the batteries pass a self test. If the battery is weak, bad or disconnected, the Low Battery/Overload/Fault LED will illuminate and the alarm will beep three times every thirty seconds until the battery is reconnected or replaced. It is recommended that the UPS be allowed to charge overnight before performing a battery test to confirm a Weak/Bad Battery condition.

#### **OVERLOAD**

When the amount of load attached to the UPS exceeds its power rating, the Low Battery/Overload/Fault LED will illuminate and the UPS will sound 1 beep every half second (AC and Battery modes). This alarm will remain on until the excess load is removed or the UPS's self protection circuit shuts the UPS down.

#### **UPS FAULT**

When the UPS detects a hardware fault, the Low Battery/Overload/Fault LED will illuminate and the UPS will sound a constant alarm. The fault condition, in some instances, may be reset by turning the UPS off and then on.





# TROUBLESHOOTING

| Symptom   | Possible Cause   | What To Do   |
|---|--|--|
| UPS will not turn on  | On/Off/ button not pressed   | Press and release the On/Off<br>button to start UPS  |
| UPS operates in<br>battery mode only,<br>even though there<br>is normal AC<br>present | Input AC circuit breaker is tripped                                  | Reset circuit breaker by<br>pressing the plunger back in.<br>If the AC circuit breaker trips<br>after UPS starts up, reduce<br>the load on the UPS   |
| Fault LED is<br>illuminated   | UPS has detected an<br>internal fault                                | Call for service   |
| The On Utility LED<br>is illuminated, but<br>there is no output                       | The UPS is being<br>controlled via its<br>communications port        | Disconnect the computer<br>cable from the UPS and press<br>the On button. If UPS works<br>normally, the software has<br>control of the UPS   |
| UPS does not<br>provide expected<br>runtime   | The batteries may be weak<br>or at the end of useful<br>service life | Charge the batteries for 8-<br>hours and retest. If the runtime<br>is still less than expected, the<br>batteries may need to be<br>replaced, even though the<br>Weak/Bad Battery LED is not<br>illuminated |
| Low Battery LED is<br>illuminated   | Loose connections at the batteries, Weak batteries, Bad batteries    | Check battery connections,<br>charge the batteries for 8-<br>hours, replace the batteries  |
| Overload LED is<br>illuminated  | The load has exceeded the UPS's capacity                             | Check the specifications (see section 8). Remove part of the load  |



# REPLACING THE BATTERY

# REPLACING THE BATTERY

(QUALIFIED SERVICE PERSONNEL ONLY)

Please read all of the WARNINGS and CAUTIONS before attempting to service the batteries.

WARNING! This UPS contains potentially hazardous voltages. Do not at-



tempt to disassemble the UPS beyond the battery replacement procedure. This UPS contains no user serviceable parts. Repairs and 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 this UPS 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.
- **CAUTION:** Although the battery system voltage is only 12VDC 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 batteries with the same number and type as originally installed in the UPS. These batteries have pressure operated vents. These UPSs contain sealed non-spillable maintenance-free lead acid batteries.

| Model #               | EN400      | EN600      |
|-----------------------|------------|------------|
| Battery<br>Qty/Rating | 1-12V4.5Ah | 1-12V5.0Ah |
| Ritar Power<br>Part # | RT1245     | RT1250     |
| CSB<br>Part #         | GP1245     | HR1221W    |

Typical Recharge Time: 8-hours from total discharge.

Typical Battery Life: 2-5 years, depending on discharge cycles and ambient temperature.

# BATTERY REPLACEMENT PROCEDURE

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

- 1. Turn off the equipment that is plugged into the output receptacles of the UPS.
- 2. Press the On/Off Button for at least one second then release the On/Off Button to turn the UPS off.
- 3. Unplug the UPS's 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 the UPS.
- 6. Turn the UPS over and lay it face down.
- 7. Remove the battery compartment retaining screws. (FIG. 1)
- 8. Remove the battery compartment cover. (FIG. 2)
- 9. Grasp the battery and gently pull it out far enough to disconnect the battery wires.
- 10. Disconnect the battery positive (Red) wire. (FIG. 3)
- 11. Disconnect the battery negative (Black) wire. (FIG. 3)

**NOTE:** DO NOT short the battery wires together.

12. Remove the battery and set aside.

NOTE: Orient the new battery in the same direction as the original battery.

- 13. Place the new battery close enough to connect the battery wires.
- 14. Connect the battery negative (Black) wire to the battery negative terminal.
- 15. Connect the battery positive (Red) wire to the battery positive terminal.

**NOTE:** Some sparking might occur, this is normal.

- 16. Install the new battery into the UPS.
- 17. Re-install the battery compartment cover onto the UPS.

WARNING: DO NOT pinch the battery wires with battery compartment cover.



- 18. Re-install the battery compartment retaining screws.
- 19. 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.
- 20. The UPS is now ready for normal operation.

#### FIG. 1

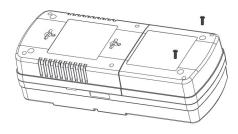


FIG. 2

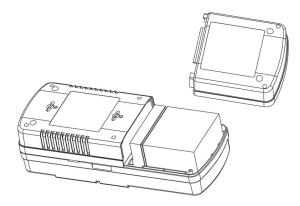
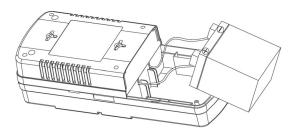


FIG. 3





# 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 the Technical Support department at the following numbers; Voice phone (972) 446-7363, FAX line (972) 446-9011 or visit our Web site at www.minutemanups.com the "Discussion Board". 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 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 UPS is under warranty, the repairs will be done at no charge. If not, there will be a charge for repair.
- 4. Pack the UPS 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 UPS 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 UPS by insured, prepaid carrier to:

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



SPECIFICATIONS 8

| SYSTEM SPECIFICATIONS   |  |                               |  |  |
|---|--|-------------------------------|--|--|
| Model Number  | EN400  | EN600                         |  |  |
| Maximum Power Capacity  | 400VA / 200W   | 600VA / 300W                  |  |  |
|   | INPUT  |                               |  |  |
| Number of Phase   | Single (1Ø 2W +G)  |                               |  |  |
| Nominal Voltage   | 120VAC   |                               |  |  |
| Acceptable Input voltage  | 0 - 160VAC   |                               |  |  |
| Voltage Range   | 100 - 1  | 140VAC                        |  |  |
| Frequency Limits  | 50 or 60 Hz, +/-5Hz, autosensing                                 |                               |  |  |
| Low Voltage Transfer Point  | 96V(+/-3%) resets to Utility Power at 101V(+/-3%) or higher      |                               |  |  |
| High Voltage Transfer Point   | 146V(+/-3%) resets to Utility F                                  | Power at 140V(+/-3%) or lower |  |  |
| Surge Energy Rating   |  | 0 J                           |  |  |
| Input Protection  | Resettable Circuit Breaker                                       |                               |  |  |
| OUTPUT NON-BATTERY OPERATION  |  |                               |  |  |
| Voltage Range   | 120VAC: 100 - 140VAC   |                               |  |  |
| Frequency Range   | 60Hz: 55 - 65Hz or 50Hz: 45 - 55Hz                               |                               |  |  |
| Efficiency (Normal Mode)  | >90% (Full Load)   |                               |  |  |
| Ol  | JTPUT BATTERY OPERA  | TION                          |  |  |
| Waveform Type   | Vaveform Type Simulated Sine Wave                                |                               |  |  |
| Nominal Voltage   | 120VAC   |                               |  |  |
| Voltage Regulation  | Nominal +/-5% (until Low Battery Warning)                        |                               |  |  |
| Frequency   | 50/60Hz, +/-0.5Hz (unless synchronized to utility)               |                               |  |  |
| Transfer Time   |  |                               |  |  |
| Overload Capacity   | load Capacity 105% for 10-seconds, 115% Shutdown Immediately     |                               |  |  |
| Protection Over-Current, Short-Circuit Protected and Latching       |  | otected and Latching Shutdown |  |  |
| Runtime: Half Load (minutes)  | 10   |                               |  |  |
| Runtime: Full Load (minutes)  | 2  |                               |  |  |
|   | PHYSICAL   |                               |  |  |
| Size - Net LXWXH  | 11.97 x 4.84 x 3.35"   | (304 x 123 x 85 mm)           |  |  |
| Weight - Net  | 6.44 lbs (2.92 Kgs)  | 7.05 lbs (3.20 Kgs)           |  |  |
| Size - Shipping L X W X H   | ze - Shipping L X W X H 15.0 x 8.20 x 5.43" (380 x 208 x 138 mm) |                               |  |  |
| Weight - Shipping   | 8.0 lbs (3.3 Kgs)  | 8.0 lbs (3.6 Kgs)             |  |  |
| REGULATORY COMPLIANCE   |  |                               |  |  |
| Safety Approvals, EMC UL1778, cUL (CSA 22.2 no. 107.1), FCC Class B |  |                               |  |  |



# English

LIMITED PRODUCT WARRANTY

Para Systems, Inc. (Para Systems) warrants this equipment, when properly applied and operated within specified conditions, against faulty materials (excluding the batteries) or workmanship for a period of three years from the date of purchase. Para Systems Inc. (Para Systems) warrants the batteries for a period of two 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 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, EX-PRESSED 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 POSSI-BILITY 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. **DECLARATION OF CONFORMITY** 

Application of Council Directive(s): UL 1778

Standard(s) to which Conformity is declared: FCC Class B

Manufacturer's Name: Para Systems, Inc. (MINUTEMAN UPS)

Manufacturer's Address: 1455 LeMay Drive Carrollton, Texas 75007 USA

Type of Equipment: Uninterruptible Power Supplies (UPS) Model No: EN400, EN600

Year of Manufacture: Beginning November 1, 2006

I hereby declare that the equipment specified above conforms to the above Directive(s).

Robert Calhoun (Name)

Manager Engineering (Position)

Place: Carrollton, Texas, USA

Date: November 1, 2006

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### Notes:



This product complies with the Restriction of certain Hazardous Substances (RoHS) Directive as conceived by the European Union committee 2002. Products that meet in the RoHS standard have been redesigned to remove the lead. mercury, cadmium, hexavalent chromium where applicable. As part of our efforts to maintain a healthy environment, Para Systems has proactively adopted these standards for our Minuteman® brand products.

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

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