

# Pulsar EX

2200RT / 3200RT  
EXB 2200/3200 RT

## Installation and User Manual



THE UNINTERRUPTIBLE POWER PROVIDER

**MGE**  
UPS SYSTEMS

# Introduction

## Important safety instructions Read before installing product

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

Thank you for selecting an MGE UPS SYSTEMS, Inc. product to protect your electrical equipment.

The **Pulsar EX RT** range has been designed with the utmost care.

We recommend that you take the time to read this manual to take full advantage of your UPS's many features.

MGE UPS SYSTEMS, Inc. pays great attention to the environmental impact of its products.

Measures that have made **Pulsar EX RT** a reference in environmental protection include:

- ▶ The eco-design approach used in product development,
- ▶ Recycling of **Pulsar EX RT** at the end of its service life.

To discover the entire range of MGE UPS SYSTEMS, Inc. products and the options available for the **Pulsar EX RT** range, we invite you to visit our web site at [www.mgeups.com](http://www.mgeups.com) or contact your MGE UPS SYSTEMS, Inc. representative.

This manual contains important instructions for **Pulsar EX RT** Models that must be followed during installation, operation and maintenance of the UPS and batteries.

The **Pulsar EX RT** Models that are covered in this manual are listed below.

Pulsar EX 2200RT, Pulsar EX 3200RT.

The normal battery voltage for all models is as follows:

Pulsar EXB 2200/3200 RT: 72 Vdc.

The Pulsar UPS is intended for installation in a temperature within 0 to 40° C, free of conductive contaminant.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## **CAUTION: Safety of persons**

- ▶ The UPS has its own internal power source (the battery). Consequently, the power outlets may be energized even if the UPS is disconnected from the AC-power source.
- ▶ Dangerous voltage levels are present within the UPS. It should be opened exclusively by qualified service personnel.
- ▶ The UPS must be properly earthed. Measurements are required to ensure that the total leakage current of the UPS and the protected equipment does not exceed 3.5 mA by checking their characteristics (maximum leakage current of the UPS = 2 mA).
- ▶ The battery supplied with the UPS contains small amounts of toxic materials. To avoid accidents, the directives listed below must be observed:
  - Never burn the battery (risk of explosion).
  - Do not attempt to open the battery (the electrolyte is dangerous for the eyes and skin).
  - Comply with all applicable regulations for the disposal of the battery.
  - Batteries constitute a danger (electrical shock, burns). The short-circuit current may be very high. Precautions must be taken for all handling: remove watches, rings, bracelets and any other metal objects, use tools with insulated handles.
  - Do not lay tools or metal parts on top of batteries.

## **CAUTION: Product Safety**

- ▶ The UPS connection instructions and operation described in the manual must be followed in the indicated order.
- ▶ UPS must be connected to a nearby wall outlet that is easily accessible. The UPS can be disconnected from the AC-power source by removing the power cord.
- ▶ Check that the indications on the rating plate correspond to your AC-power system and to the actual electrical consumption of all the equipment to be connected to the UPS.
- ▶ Never install the UPS near liquids or in an excessively damp environment.
- ▶ Never let a foreign body penetrate inside the UPS.
- ▶ Never block the ventilation grates of the UPS.
- ▶ Never expose the UPS to direct sunlight or source of heat.
- ▶ If the UPS must be stored prior to installation, storage must be in a dry place.
- ▶ The admissible storage temperature range is -25°C to +55°C.

## **Special Precautions**

- ▶ All handling operations will require at least two people (unpacking, installation in rack system).
- ▶ Once installed and connected to the AC power source for the first time, the battery will start to charge. Full charging to obtain the rated battery backup time requires at least 8 hours.
- ▶ Before and after the installation, if the UPS remains de-energized for a long period, the UPS must be energized for a period of 24 hours, at least once every 6 months (for a normal storage temperature less than 25°C). This charges the battery, thus avoiding possible irreversible damage. During the replacement of the battery module, it is imperative to use the same type and number of element previously mounted in the UPS, in order to maintain an identical level of performance and safety. In case of doubt, don't hesitate to contact our after sales department (for more information, refer to the web site [www.mgeups.com](http://www.mgeups.com)).

# How to use this document

## Using this document

Information may be found primarily by consulting:

- ▶ The contents,
- ▶ The index.

## Icon Usage



**WARNING:** Eminent hazard to personnel or equipment, information must always be followed.



**CAUTION:** Hazard to personnel or equipment, information that must always be followed.



Notes, tips and information, help.



Important information, help.



Visual indication.



Action.



Audio indication.

In the illustrations on the following pages, the symbols below are used:



LED off.



LED on.



LED flashing.

<b>1. Presentation</b>	
<b>1.1 System configurations</b>	7
Rack setup	7
Tower setup	7
<b>1.2 Rear panel</b>	8
Pulsar EX 2200RT	8
Pulsar EX 3200RT	8
Pulsar EXB 2200/3200 RT	8
<b>1.3 Control panel</b>	9
<b>2. Installation</b>	
<b>2.1 Unpacking</b>	10
<b>2.2 Installation in rack position</b>	11
<b>2.3 Installation in tower position</b>	12
<b>2.4 Connection to the RS232 or USB communication port (optional)</b>	13
<b>2.5 Installation of the communication-card option</b>	13
<b>2.6 Connections</b>	14
<b>3. Operation</b>	
<b>3.1 Start-up</b>	15
<b>3.2 LED indicators</b>	15
<b>3.3 Operation on battery power (following failure of AC input power)</b>	16
Transfer to battery power	16
Threshold for the low-battery warning	16
End of backup time	16
<b>3.4 Personalization (optional)</b>	17
Function	17
"ON / OFF conditions" tab	17
"Battery" tab	17
"Output" tab	18
"Bypass" tab	18
<b>3.5 UPS Shutdown</b>	18
<b>3.6 UPS Remote Power Off</b>	19

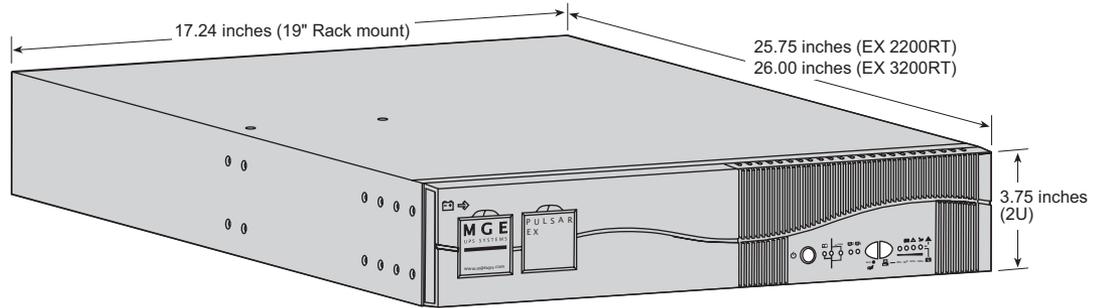
# Contents

<b>4. Maintenance</b>	
4.1 Troubleshooting .....	20
4.2 Replacement of the battery modules .....	22
<b>5. Environment .....</b>	<b>24</b>
<b>6. Appendices</b>	
6.1 Technical characteristics .....	25
6.2 Glossary .....	26
6.3 Index .....	27

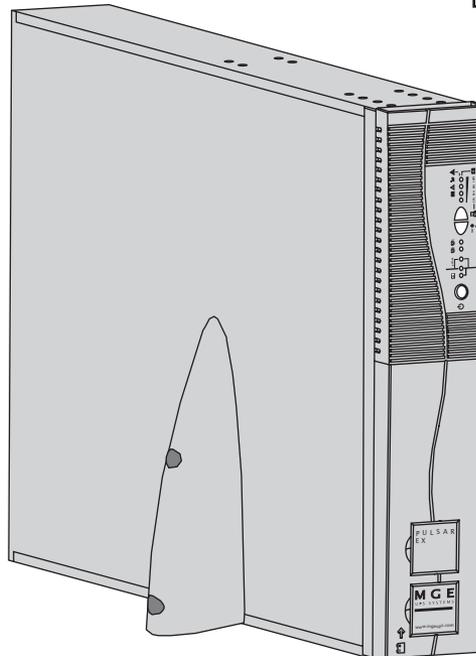
# 1. Presentation

## 1.1 System configurations

### Rack setup



### Tower setup

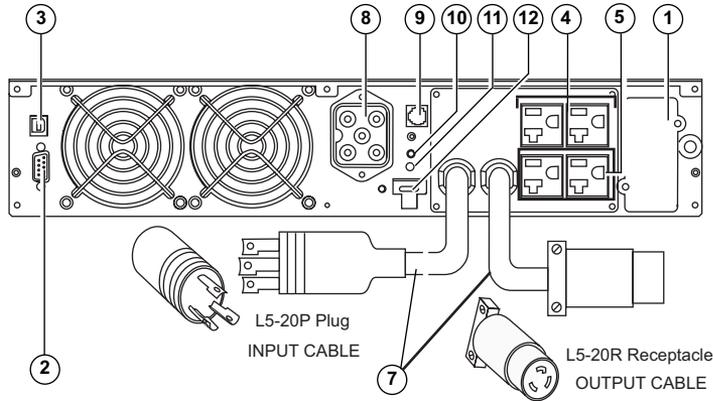


Model	Part Number	Weight (lbs/kg)
Pulsar EX 2200RT	85220	80.8 lbs (36.6 kg)
Pulsar EX 3200RT	85320	82.7 lbs (37.5 kg)
Pulsar EXB 2200/3200 RT	85000	92.8 lbs (42.0 kg)

# 1. Presentation

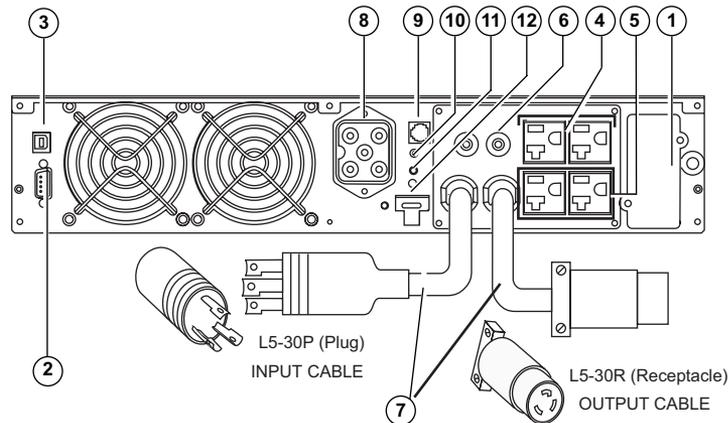
## 1.2 Rear panel

### Pulsar EX 2200RT



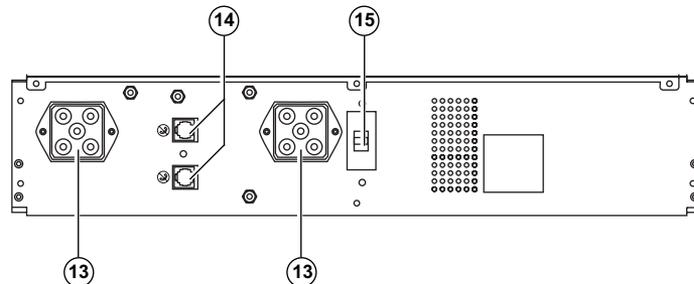
- ① Slot for communication-card option.
- ② RS232 communication port.
- ③ USB communication port.
- ④ Upper two receptacles for connection to AC-power source.
- ⑤ Lower two programmable receptacles (1 and 2).
- ⑥ Output circuit breakers. (EX 3200RT)
- ⑦ Input/Output power cords for direct connection of protected equipment. EX 2200RT-L5-20P/L5-20R; and EX 3200RT-L5-30P/L5-30R.

### Pulsar EX 3200RT



- ⑧ Connector for an additional battery module.
- ⑨ Connector for automatic detection of an additional battery module.
- ⑩ Pushbutton to test phase/neutral inversion of AC-power source.
- ⑪ LED indicating Site Wiring Alarm Enable, with flashing and intermittent buzzer. Reset fault with rear panel button.

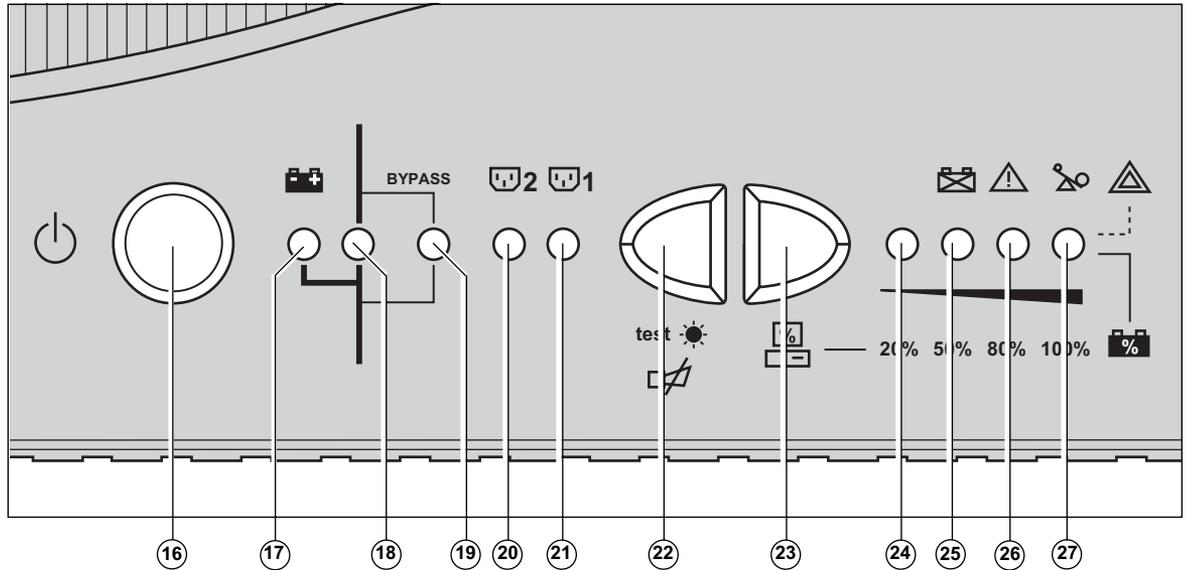
### Pulsar EXB 2200/3200 RT



- ⑫ Connector for remote power off (RPO).
- ⑬ Battery module connectors (to the UPS or to other battery modules).
- ⑭ Connectors for automatic detection of additional battery modules.
- ⑮ Circuit breaker for battery ON/OFF and protection.

# 1. Presentation

## 1.3 Control panel



①⑥ ON / OFF.

①⑦ Operation on battery power.

①⑧ Operation in ON-LINE mode (backup power available).

①⑨ Operation on bypass (no backup power available).

①⑩ Status of programmable outlet 2:

①⑪ Status of programmable outlet 1:



Supplied with power

Status change in progress.

①⑫ ▶ Lamp test or buzzer OFF.

▶ Forced transfer to bypass and back by pressing button 3 times in less than 5 seconds.

Press simultaneously at least 3 seconds to reset the "End of battery life" alarm.

①⑬ Hold down to display percent load:



**Alarms**



**% battery remaining**



**% load**

①⑰ UPS overload

100%

100%

①⑱ Electronics fault

80%

80%

①⑲ Battery fault \*

50%

50%

①⑳ Site Wiring Fault

20%

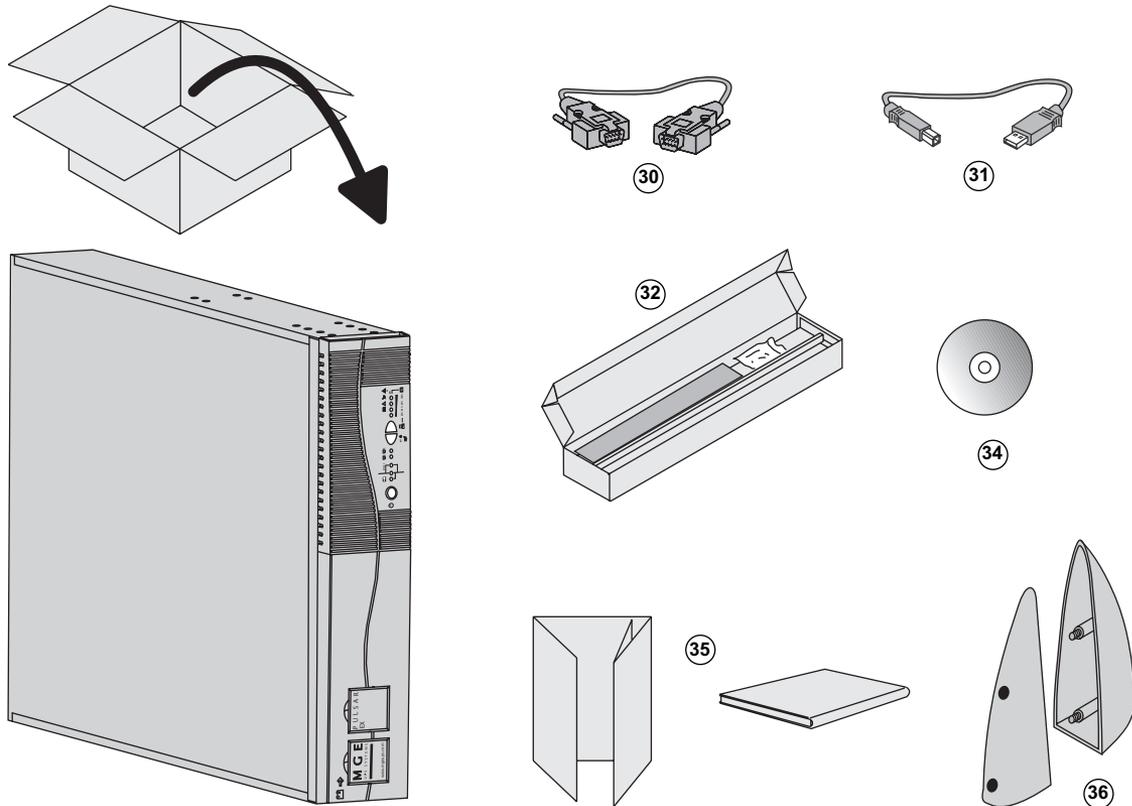
20%

(\*) : ▶ flashing LED + buzzer: battery fault (battery must be replaced).

▶ flashing LED + long buzzer (once per hour): theoretical end of battery life (replacement recommended).

## 2. Installation

### 2.1 Unpacking

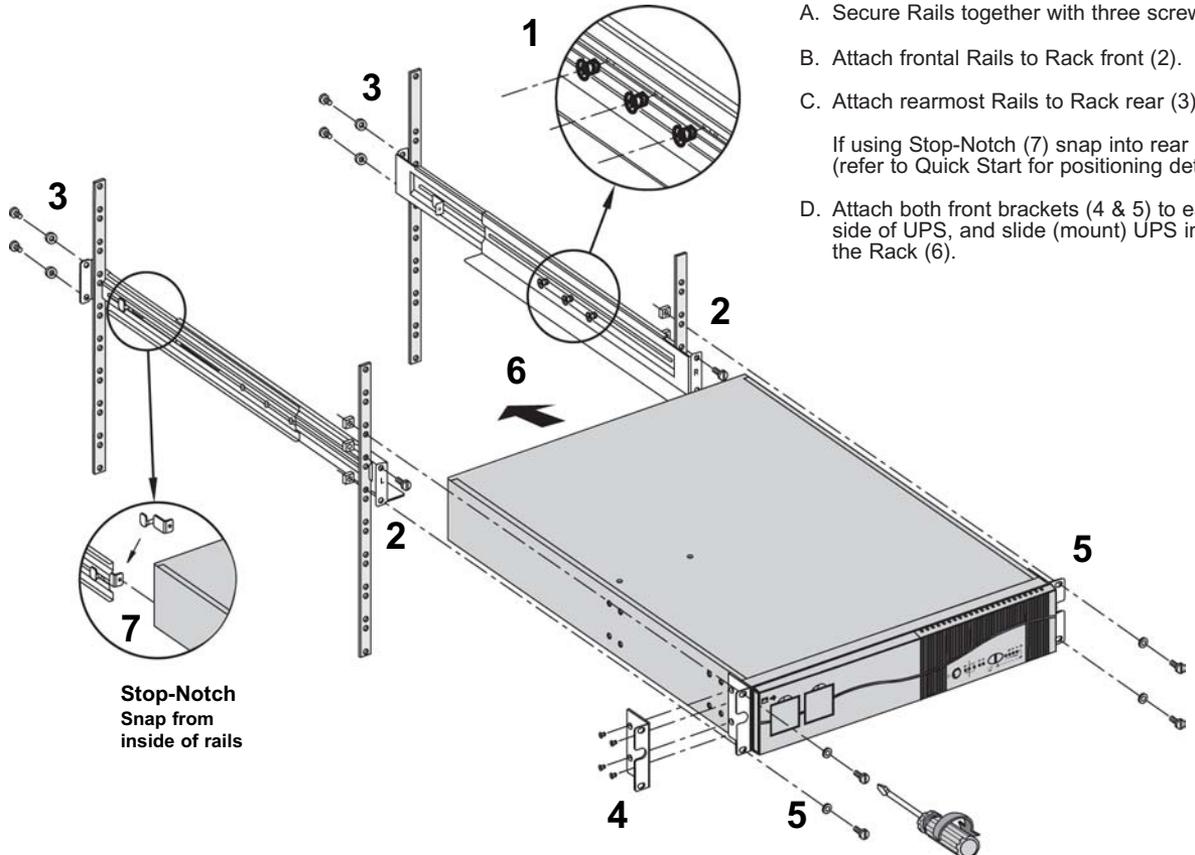


- ③① RS232 communication cable.
- ③② USB communication cable.
- ③③ Telescopic rails for mounting in 19" bay with mounting hardware.
- ③④ CD-ROM with the **Solution-Pac** and **UPS Driver** software.
- ③⑤ Product documentation.
- ③⑥ Two supports for the upright position.

# 2. Installation

## 2.2 Installation in rack position

Follow steps A to D for rack mounting of the UPS on the rails. The rails and the necessary mounting hardware are supplied in the box along with the UPS (see item 32 on page 10).



Stop-Notch  
Snap from  
inside of rails

- A. Secure Rails together with three screws (1).
- B. Attach frontal Rails to Rack front (2).
- C. Attach rearmost Rails to Rack rear (3).
- If using Stop-Notch (7) snap into rear rail.  
(refer to Quick Start for positioning details.)
- D. Attach both front brackets (4 & 5) to each side of UPS, and slide (mount) UPS into the Rack (6).



**CAUTION:** Do not lean or place objects on top of unit at any time. Hazard of dismounting and disconnection can occur with units.



**NOTE:** (For step 5) it is possible to adjust the position of the front fixing bracket.

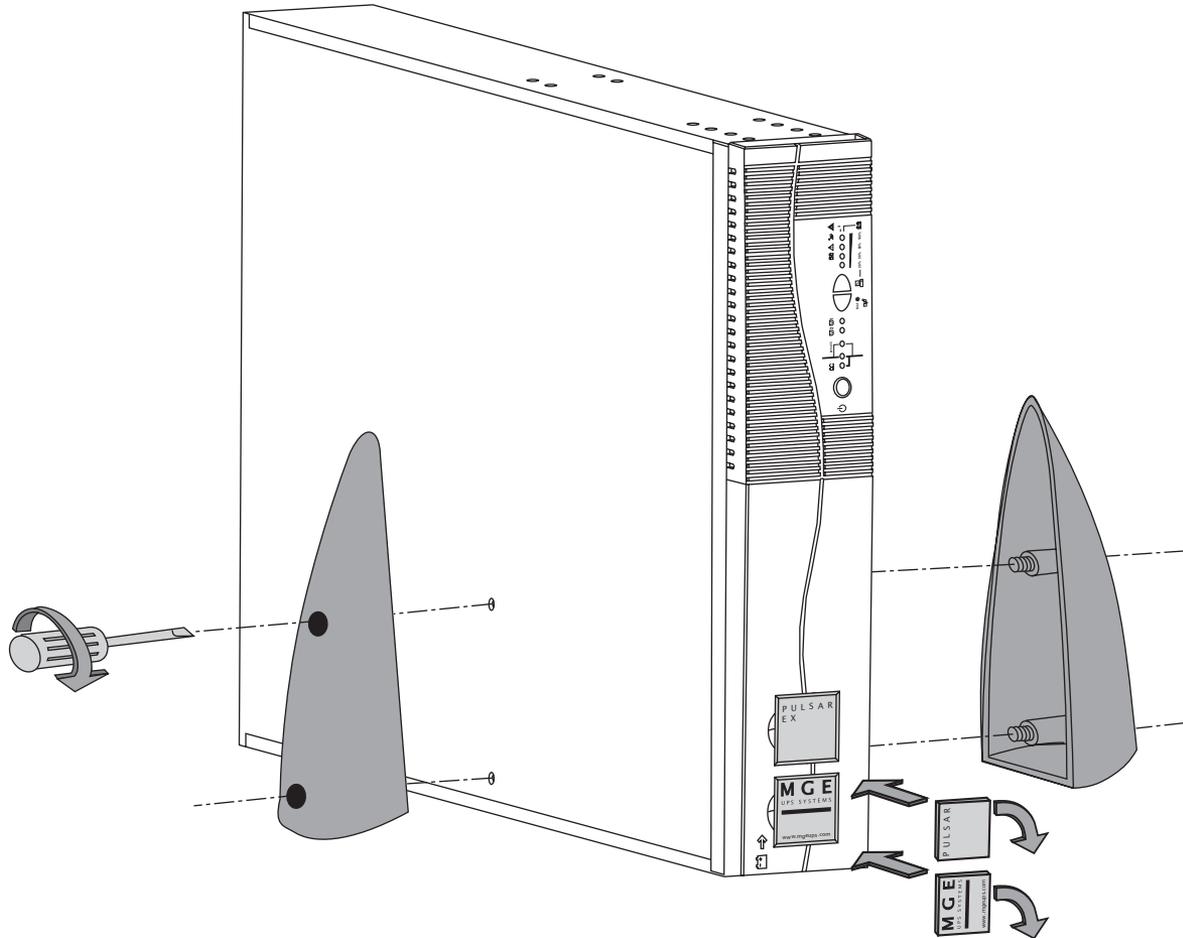
## 2. Installation

### 2.3 Installation in tower position

Install the two supports for the upright position using provided hardware in the package.  
(see item 32 on page 10).

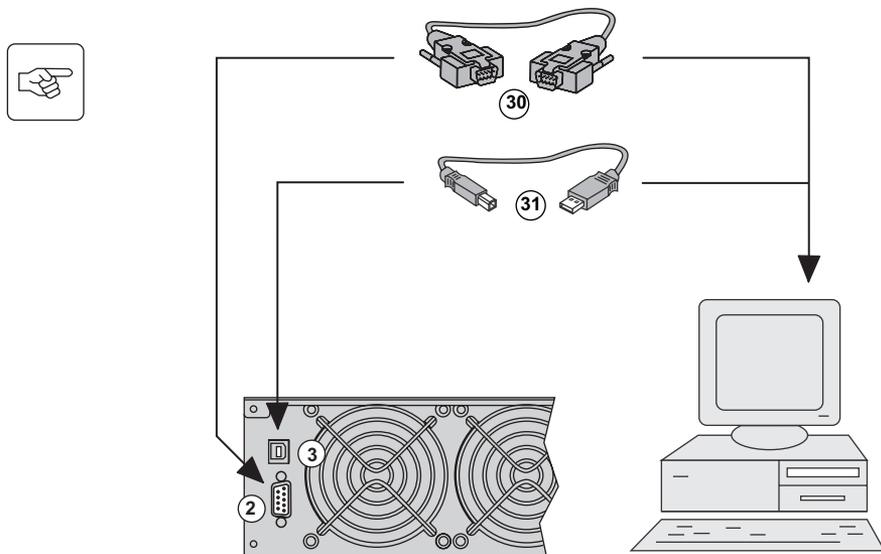


Pull out the MGE Logo and Model plates, then rotate them as shown.



## 2. Installation

### 2.4 Connection to the RS232 or USB communication port (optional)



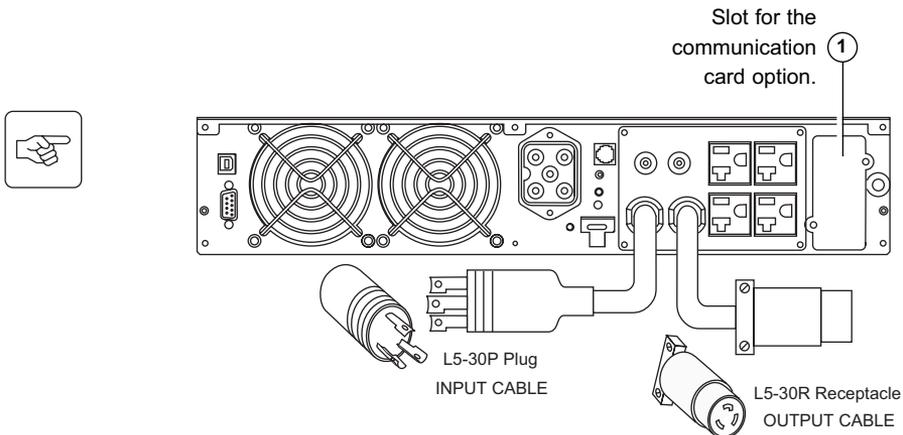
1. Connect the RS232 (30) or USB (31) communication cable to the serial port or the USB port on the computer.
2. Connect the other end of the communication cable (30) or (31) to the RS232 (2) or USB (3) communication port on the UPS.

The UPS can now communicate with all MGE UPS SYSTEMS, Inc. supervision, set-up or safety software.



NOTE: The RS232 and USB communication ports cannot operate simultaneously.

### 2.5 Installation of the communication-card option



It is not necessary to shut down the UPS to install the communication card:

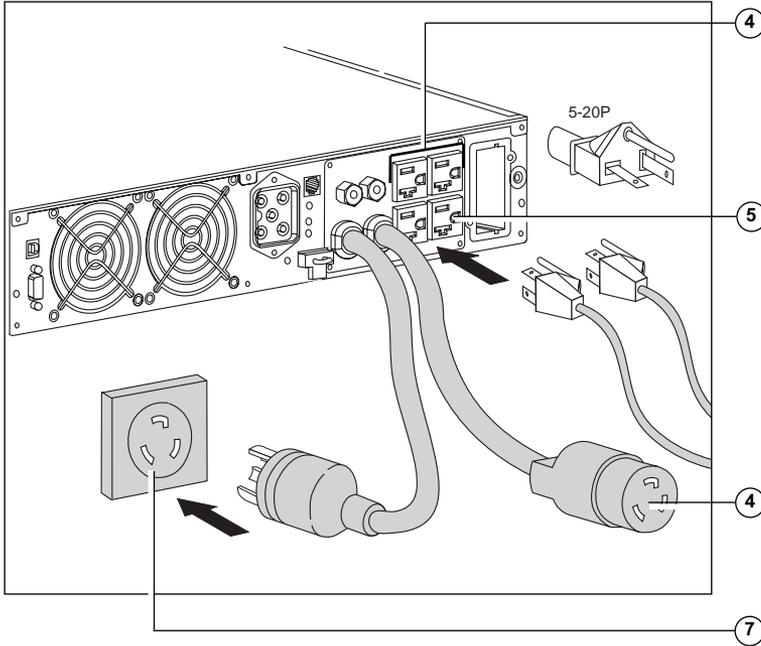
1. Remove the slot (1) cover secured by two screws.
2. Insert the card in the slot.
3. Secure the card with the two screws.

## 2. Installation

### 2.6 Connections



**CAUTION:** Check that the indications on the rating plate (on the back of the UPS), correspond to your AC-power system, and to the actual electrical consumption of all the equipment to be connected to the UPS.



1. Connect the input power cord (7) to the AC-power wall-receptacle.
2. Connect the protected equipment to the UPS. It is advised to connect priority loads to the outlets and/or power cord (4) and any non-priority loads to the two programmable outlets (5) (If the UPS is connected to a computer running MGE UPS SYSTEMS, Inc. communication software, it is possible to program the interruption of power to the two programmable outlets (5) during operation on battery power, thus reserving backup power for the priority loads).

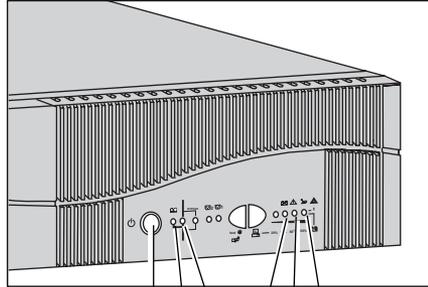


The battery begins charging the instant the UPS unit is connected to a power source. Eight hours are required to charge to the full rated backup time.

# 3. Operation

## 3.1 Start-up

The protected equipment connected to the UPS can be energized, whether AC input power is available or not.



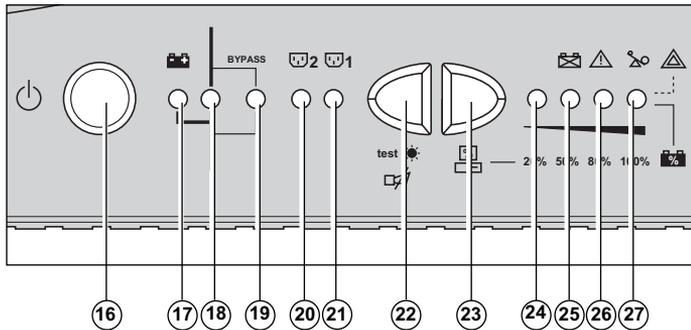
**CAUTION:**The AC input power source must be present when energizing for the first time.

1. Press the ON / OFF button (16).
  - ▶ The buzzer beeps and all the LEDs go ON.
  - ▶ The buzzer beeps twice, then:
    - ▶ If AC input power is available, LED (18) goes ON, indicating operation in ON-LINE mode.
    - ▶ If AC input power is not available and the UPS is configured for automatic restart mode, the buzzer beeps three times and LED (17) goes ON, signalling operation on battery power.

**All connected equipment is energized.**

NOTE: If LEDs (17) or (18) do not turn ON or if LEDs (25) to (27) flash, there is a fault (see section 4.1).

## 3.2 LED indicators



**LEDs (24) to (27) provide three different indications:**

1. Remaining backup time in percent (during normal operation).
2. Percent load drawn by the protected equipment, when button (23) is pressed.
3. Operating faults (flashing LED and beeps):
  - (27) Overload.
  - (26) UPS fault.
  - (25) Battery fault or end of life warning.
  - (24) Site wiring Fault

**Description of LED indicator status (20) and (21) for programmable outlets 1 and 2:**

- ▶ OFF: the outlets are not supplied with power.
- ▶ Flashing: status change in progress.
- ▶ ON: the outlets are supplied with power.

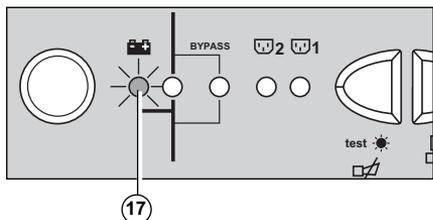
Outlets 1 and 2 can be remotely programmed and controlled.

They may be used for sequential start-up of the protected applications, shedding of non-priority applications during operation on battery power, and priority management at the end of battery backup time to reserve the longest possible backup time for the most sensitive applications. These outlets are programmed using **Solution Pac** software.

## 3. Operation

### 3.3 Operation on battery power (following an AC input power failure)

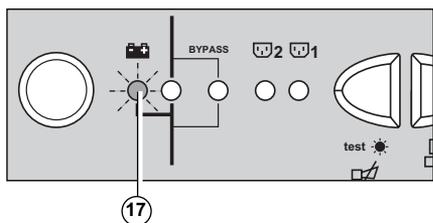
#### Transfer to battery power



The AC-power source is outside tolerances, LED 17 is ON, the buzzer beeps three times.

**The equipment connected to the UPS is supplied by the battery.**

#### Threshold for the low-battery warning



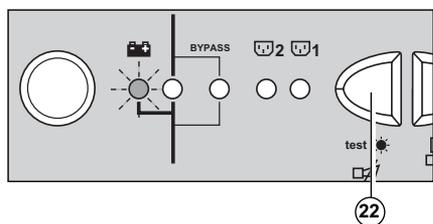
The low-battery warning threshold can be set by the user, with the **UPS Driver** software (see section 3.4).

LED 17 flashes.

The buzzer beeps every three seconds.

**There is very little remaining battery backup time. Close all applications because UPS automatic shutdown is imminent.**

#### End of backup time



The buzzer sounds continuously.

Press button 22 to turn the buzzer OFF.

**The equipment is no longer supplied with power.**

The UPS goes to sleep mode at the end of the battery backup time, until complete shutdown, due to tripping of the battery-protection function against deep discharge.



#### Return of AC input power:

**IMPORTANT:** If, in spite of the return of AC input power, the UPS does not restart, check that the automatic-restart function (activated by return of AC input power) has not been disabled (see section 3.4).

## 3.4 Personalization (optional)

### Function

Personalization parameters can be set and modified using the **UPS Driver** software installed on a computer that is connected to the UPS (see section 2.4 Connection to the RS232 communication port).



**NOTE:** Check that the RS232 (30) cable is properly connected.

**UPS Driver** installation:



1. Insert the **Solution-Pac** CD-ROM containing the **UPS Driver** software into your computers CD ROM drive.
2. Open the file Manager and select the CD-ROM drive.
3. Launch "\\Emb\Config\UPSDRVxx.exe" (xx = software version).



**IMPORTANT:** You can download the software **UPS Driver** from the [www.mgeups.com](http://www.mgeups.com) as well, or contact an MGE representative in your area. Once **UPS Driver** has been installed, the UPS parameters listed below can be modified.

### "ON / OFF conditions" tab

Personalization function	Default setting	Options
Automatic start	Enabled	Disabled
Cold start (battery power)	Enabled	Disabled
Forced shutdown	Enabled	Disabled
Sleep mode	Disabled	Enabled
UPS ON / OFF via software	Enabled	Disabled

### "Battery" tab

Personalization function	Default setting	Options
Automatic "Battery test" intervals	Every weeks	Once a day Once a month No test
"Low-battery warning" threshold	20% remaining battery backup time	From 0% to 100% of the remaining battery backup time
Protection against deep discharges	Enabled	Disabled

# 3. Operation

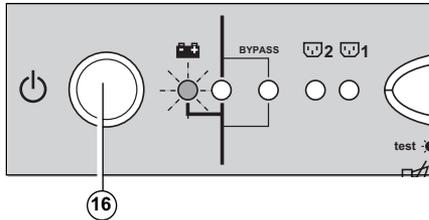
## "Output" tab

Personalization function	Default setting	Options
Rated UPS voltage	120 V	100 V - 127 V
Frequency working mode	Autoselect	Converter
Rated UPS frequency	F = 60 Hz	50 Hz
UPS tolerance for AC-power source frequency	F ± 5%	F ± 1% to ± 10%, in 1% steps
Overload alarm threshold	110%	0 to 110%, in 10% steps
UPS restart following short-circuit	Disabled	Enabled (click to add check)

## "Bypass" tab

Personalization function	Default setting	Options
Transfer to bypass if overload	Enabled	Disabled (click to remove check)
Transfer to bypass following a fault, whatever the conditions on the AC-power source	Disabled	Enabled (click to add check)

## 3.5 UPS shutdown



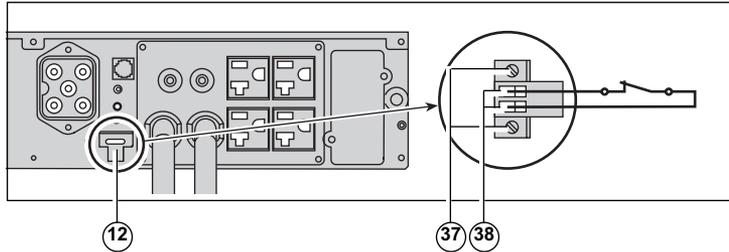
Press button **16** (return to the OFF position).

**The connected equipment is no longer supplied with power.**

## 3.6 UPS Remote Power Off (RPO)

Pulsar EX RT's are equipped with a Remote Power Off function (RPO) that can cut power to all the devices connected to the UPS using a remote user-operated contact.

The function is implemented by opening a contact connected to the two terminals of connector ⑫ on the back of the UPS.



### Installation and test of the remote power off function



1. Check that the UPS is shut off and disconnected from the AC power source.
2. Remove the RPO connector ⑫ by undoing the screws ③⑦.
3. Connect an insulated dry contact (NC, 60 V DC, 30 V AC max., 20 mA max., cable size 0.75 mm) to the two terminals of the RPO connector ③⑧.
4. Put the RPO connector ⑫ back in place on the back of the UPS.
5. Connect the UPS to the AC-power source and restart it as indicated previously.
6. Activate the RPO external contact to test the function.
7. To return to normal operation, deactivate the RPO external contact and restart the UPS using button ⑩ (press OFF, then ON).

# 4. Maintenance

## 4.1 Troubleshooting

If any of LEDs (25), (26) or (27) flash, there is a operating anomaly or an alarm.



NOTE: If a LED flashes, the bargraph data is no longer displayed.



LED (27) flashes and the buzzer beeps.	<p>UPS overload. Overload is too long or too high.</p> <ul style="list-style-type: none"> <li>▶ If AC power is present and within tolerances, the UPS goes to bypass mode (supply directly by the AC-power source). LED (19) flashes. The buzzer beeps every second.</li> <li>▶ If AC power is not present or not within tolerances, the connected applications are no longer supplied. The buzzer sounds continuously.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Check the power drawn by the equipment and disconnect any non-priority devices.</li> </ul>
LED (25) flashes and the buzzer beeps.	<p>A battery fault was detected during the automatic battery test.</p> <ul style="list-style-type: none"> <li>▶ Replace battery module (see Maintenance section).</li> </ul>	<ul style="list-style-type: none"> <li>▶ Check that the battery connector is fully pushed in.</li> </ul>
LED (25) flashes and the buzzer emits a long beep once per hour.	<p>The battery has reached the theoretical end of its service life.</p> <p>See the section on maintenance.</p>	<ul style="list-style-type: none"> <li>▶ Reset the alarm by pressing buttons (22) and (23) simultaneously for 3 seconds.</li> <li>▶ It is advised to replace both batteries at the same time with the same rating as the original batteries.</li> </ul>
The yellow LED (24) flashes, the red indicator light (11) behind the UPS comes on and the buzzer sounds continuously.	<p>The function for monitoring the phase and neutral position of your electrical network has detected a reversal.</p>	<ul style="list-style-type: none"> <li>▶ Directly earthed neutral type networks: check the cabling of phase and neutral on your electrical network.</li> </ul> <p>For all other network types, de-activate the detection function (this function is only operational for directly earthed neutral electrical networks):</p> <p>Press for at least 5 seconds the pushbutton (10) behind the UPS (UPS stopped and connected to the network for less than 30 minutes).</p>

## 4. Maintenance



Indication	Signification	Correction
<p>The outlets are not supplied with power, even though button <b>16</b> is ON (3200 RT only).</p>	<p>One of the protection circuit breakers <b>6</b> for the outlets (on the back of the UPS) is open.</p>	<ul style="list-style-type: none"> <li>▶ Check that there is not a short-circuit on the outlets.</li> <li>▶ Eliminate any overloads on the outlets by modifying the distribution of devices on the outlets.</li> </ul>
<p>LED <b>26</b> flashes and the buzzer sounds continuously.</p>	<p>UPS electronics have detected a UPS fault. Depending on the UPS personalization parameters (see section 3.4).</p> <p>There are two possibilities:</p> <ul style="list-style-type: none"> <li>▶ The equipment connected to the UPS continues to be supplied, but directly from the AC-power source (via the automatic bypass (LED <b>19</b> ON).</li> <li>▶ The connected equipment is no longer supplied.</li> </ul> <p> The equipment connected to the UPS is no longer protected.</p>	<ul style="list-style-type: none"> <li>▶ Restart the UPS.</li> <li>▶ Call the after-sales support department.</li> </ul>

# 4. Maintenance

## 4.2 Replacement of the battery modules



**CAUTION: Load will not be protected during this procedure!**

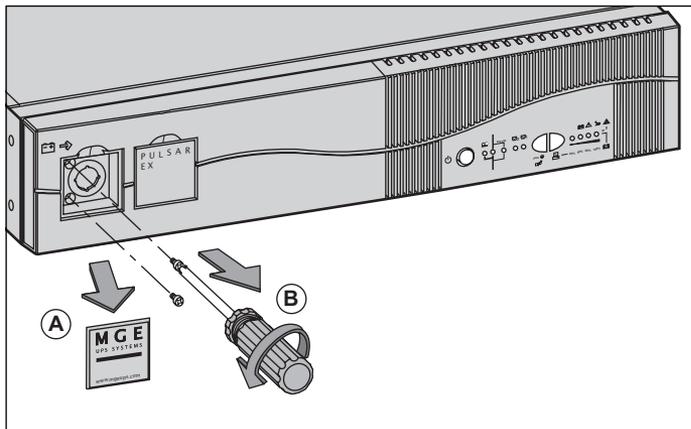
Batteries constitute a danger (electrical shock, burns). The short-circuit current may be very high.

Precautions must be taken for all handling.

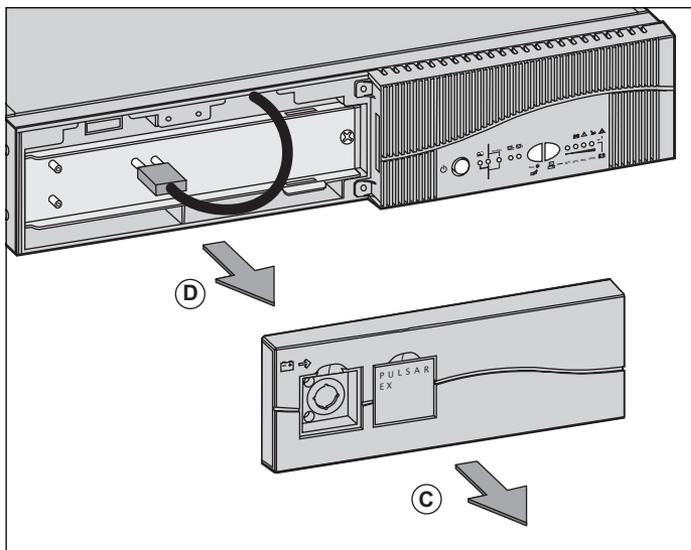
**Safety Rules:**

- ▶ Remove all watches, rings, bracelets and any other metal objects that may come into contact with the battery modules.
- ▶ Use tools with insulated handles.

**Removal of the battery modules**

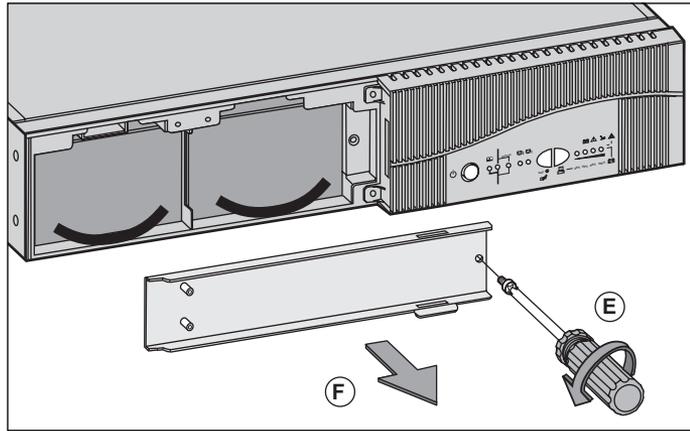


- (A) - Unclip the small plate with the MGE UPS SYSTEMS, Inc. Logo on the UPS front panel.
- (B) - Remove the 2 screws.

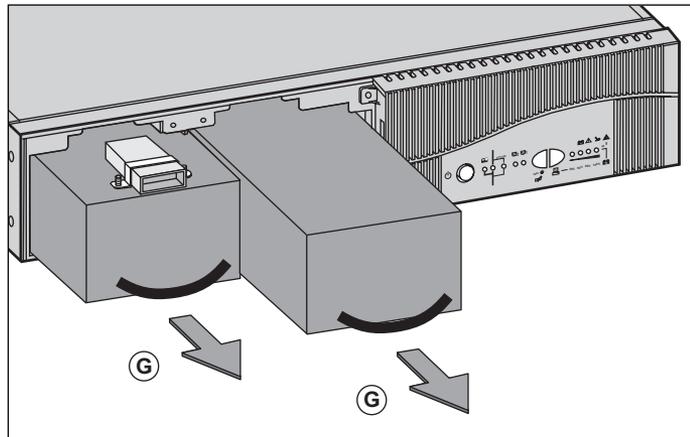


- (C) - Remove the left part of the front panel.
- (D) - Disconnect the connector.

## 4. Maintenance



- (E) - Remove the screws securing the battery cover.
- (F) - Remove the cover.



- (G) - Remove the two battery modules and proceed with replacement.



### Reinstallation of the battery modules

To reinstall the battery modules perform this procedure in reverse order e.g., "G", "F", "E".

- ▶ To maintain an identical level of performance and safety, use battery modules identical to that previously mounted in the UPS.
- ▶ Press the two parts of the battery connector tightly together to ensure proper connection.

# 5. Environment

## **This product has been designed to respect the environment:**

It does not contain CFC's or HCFC's.

## **UPS recycling at the end of service life:**

MGE UPS SYSTEMS, Inc. undertakes to recycle, by certified companies and in compliance with all applicable regulations, all UPS products recovered at the end of their service life (contact your MGE UPS SYSTEMS, Inc. branch office).

## **Packing:**

UPS packing materials must be recycled in compliance with all applicable regulations.



## **WARNING:**

This product contains lead-acid batteries. Lead is a dangerous substance for the environment if it is not properly recycled by specialized companies.

## **MGE Customer Care Center**

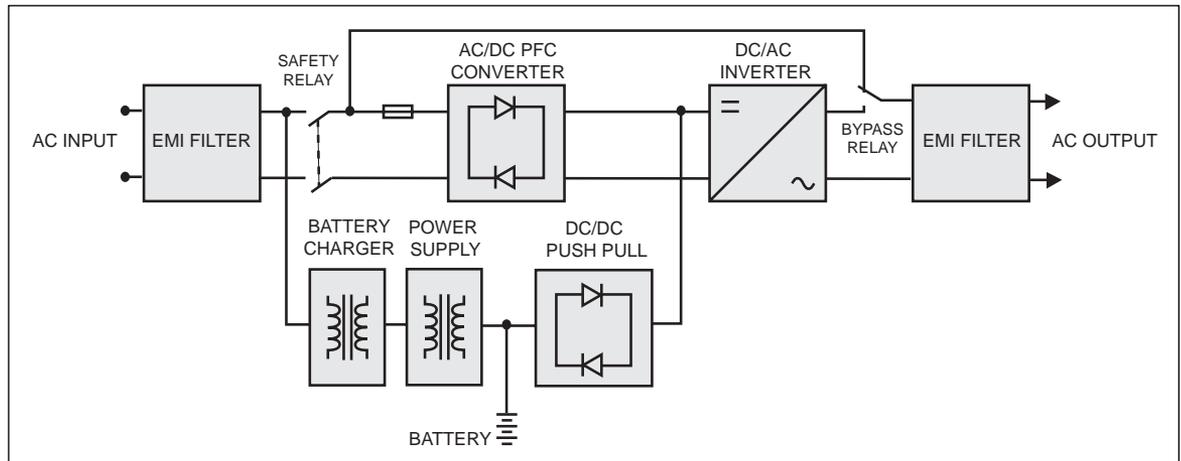


Technical questions? If you encounter a problem while following the instructions in this manual, we recommend that you contact our Technical Support Group at **1 800 523-0142**.

Or visit MGE UPS SYSTEMS, Inc. website at [www.mgeups.com](http://www.mgeups.com) for complete technical support information, FAQ and RMA forms for service.

# 6. Appendices

## 6.1 Technical characteristics



	Pulsar EX 2200RT	Pulsar EX 3200RT	Pulsar EXB
<b>Output power rating</b>	2200 VA / 1540 W	3200 VA / 2080 W	2200/3200 RT
<b>AC-input</b> <ul style="list-style-type: none"> <li>▶ Voltage</li> <li>▶ Frequency</li> <li>▶ Power factor</li> </ul>	Single phase, 60 V / 70 V / 80 V to 142 V <sup>(1)</sup> 50/60 Hz (auto-select) ≥ 0.95		<b>Runtime @ full load</b> 20min -40min -60min -80min 1EXB -2EXB -3EXB -4EXB
<b>Output specification</b> <ul style="list-style-type: none"> <li>▶ Voltage</li> <li>▶ Frequency</li> <li>▶ Harmonic distortion</li> <li>▶ Overload capability</li> </ul>	Single phase, 120 V ± 3% <sup>(2)</sup> 50/60 Hz ± 0.5% <sup>(3)</sup> < 4% on linear load, < 6% on non linear load 110% continuous, 130% 12s, > 130% 1.5s		<b>QUALITY</b> Designed, Manufactured and marked under ISO 9001 quality system.
<b>Battery (sealed lead-acid, maintenance free)</b>	6 x 12 V - 7 Ah	6 x 12 V - 9 Ah	72VDC - 18 Ah
<b>Environmental and safety</b> <ul style="list-style-type: none"> <li>▶ Noise level</li> <li>▶ Operating temperature</li> <li>▶ Relative humidity</li> <li>▶ Safety</li> <li>▶ EMC</li> <li>▶ Agency markings</li> </ul>	< 50 dBA 0 to 40° C 20 to 90% (without condensation) UL 1778 / cUL CSA 22.2 N°107.1 FCC 47 CFR Part 15, class A UL, CSA		UL, CSA FCC Class A UL, cUL

(1) Input voltage correspond to 33% / 66% / 100% of the nominal power rating.

(2) Adjustable from 100 V to 127 V using **UPS Driver** software.

(3) Frequency converter mode may be set using the **UPS Driver** software.

# 6. Appendices

## 6.2 Glossary

<b>Authorized voltage range for transfer to bypass if fault or overload</b>	Upper and lower voltage thresholds within which the UPS can operate on the automatic bypass in the event of a UPS fault or overload.
<b>Automatic bypass</b>	Automatic switch controlled by the UPS, used to connect the equipment directly to the AC-power source in the event of a UPS failure or an overload.
<b>Automatic start following return of AC input power</b>	This function automatically starts the UPS when AC input power returns following shutdown at the end of the battery backup time. It can be enabled or disabled.
<b>Backup time</b>	Time that the connected equipment can operate on battery power.
<b>Bargraph</b>	Device on the front panel indicating the percent remaining backup time or the percent load.
<b>Battery test</b>	Internal UPS test on battery status.
<b>Dialog box</b>	A window in a computer program displayed for selection by the user of various options and parameter settings.
<b>Double conversion</b>	The power supplied to the connected equipment is completely regenerated by continuous double conversion, i.e. the AC power from the AC-power source is rectified (AC - DC), then converted back (DC - AC) to AC power.
<b>Equipment</b>	Devices or systems connected to the UPS output.
<b>Forced shutdown</b>	Ten-second interruption in the supply of power to the connected equipment following a system shutdown, even if AC input power returns during the interruption period.
<b>Percent load</b>	Ratio between the power drawn by the connected equipment and the total power that the UPS can supply.
<b>Personalization</b>	A number of UPS functions can be modified using the <b>UPS Driver</b> software to better meet the user's needs.
<b>Programmable outlets</b>	Outlets that can be automatically shed during operation on battery power (a shedding time delay may be programmed using <b>Solution-Pac</b> software).
<b>Remote Power Off</b>	External dry contact can be used to stop the unit, during an emergency situation for example. All power is removed from the load.
<b>Start on battery power</b>	This function makes it possible to energize the connected equipment even when AC input power is not available (operation exclusively on battery power).
<b>UPS</b>	Uninterruptible Power Supply.
<b>UPS ON / OFF via software</b>	It is possible to enable or disable use of UPS ON / OFF controls by the computer-system protection software.

## 6.3 Index

### A

Automatic bypass.....	9-18-20
Automatic start .....	17

### B

Bargraph .....	9-15
Battery .....	
End of backup time.....	16
Fault.....	9-15
Low-battery warning .....	17
Recycling .....	24
Replacement .....	22-23
Transfer to battery power .....	16
Buttons .....	8-9
Buzzer .....	15-16
Buzzer shutdown .....	9

### C

Connection .....	
Additional battery module .....	8
Communication card .....	13
RS 232 communication port.....	13
USB communication port .....	13
Communication .....	8-13

### D

Dimensions.....	7
-----------------	---

### E

Environment .....	2-24
-------------------	------

### F

Forced shutdown .....	17
-----------------------	----

### L

Lamp test.....	9
LEDs.....	8-9

### O

ON LINE mode.....	9
Overload .....	9-18-20

### P

Personalization .....	17
Battery .....	17
By-pass .....	18
On/Off conditions .....	17
Output.....	18
Programmable outlets .....	8-9-15

### R

Remote power off.....	19
-----------------------	----

### S

Site Wiring Fault.....	9
Sleep mode .....	17
Automatic restart .....	17-18
Start-up.....	15

### T

Technical characteristics .....	25
Transfer (forced) .....	9

### U

UPS Driver .....	17
UPS fault .....	9-15-20-21
UPS ON / OFF via software .....	17
UPS shutdown .....	18

### W

Web site.....	2
Weight .....	7

**MGE UPS SYSTEMS, INC.**

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