When the internal battery is not connected, the following events occur after pressing and releasing the push-button:

- The Back-UPS charges the internal battery until it locks.
- The yellow On Battery indicator flashes.
- The green On Line indicator lights while the Self-Test is being performed.
- If Self-Test has successfully completed, only the green On Line indicator will be lit.
- If the internal battery is not connected, see Step 1 above) the green On Line indicator and red Replace Battery indicator will light. The Back-UPS will also emit a chirping sound.

Observe that the following events occur after pressing and releasing the push-button:

- The green On-Line indicator flashes.
- The yellow On Battery indicator lights while the Self-Test is being performed.
- If Self-Test has successfully completed, only the green On Line indicator will be lit.
- If the internal battery is not connected, see Step 1 above) the green On Line indicator and red Replace Battery indicator will light. The Back-UPS will also emit a chirping sound.

To replace the internal battery, proceed as follows:

1. Place the unit on its side. Slide the battery compartment cover upward and off of the UPS.
2. Pull the battery out, exposing the battery terminals and wires. Disconnect the wires from the terminals.
3. Place the new battery into the battery compartment. Connect the battery wires to the terminals as follows:
   - Black wire to Ground (-) terminal
   - Red wire to Positive (+) terminal
4. Align the battery compartment cover with the grooves in the UPS. Slide the cover down until it locks.
5. Plug the Back-UPS into a wall outlet, as shown.

When ordering, please specify Battery Cartridge RBC2 (Back-UPS 350/500) or RBC17 (Back-UPS 650).
Troubleshooting

Use the tables below to solve minor Back-UPS installation and operation problems. Consult APC On-line Technical Support or call APC Technical Support for assistance with problems that cannot be resolved using this document.

### Possible Cause

<table>
<thead>
<tr>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back-UPS not connected on an AC power source.</td>
</tr>
<tr>
<td>Check that the Back-UPS power plug is securely connected to the wall outlet.</td>
</tr>
</tbody>
</table>

### Back-UPS circuit breaker “tripped”

- Disconnect non-essential equipment from the Back-UPS. Reset the circuit breaker located on the rear panel of the Back-UPS by pushing the circuit breaker button fully inward until it clicks. If the circuit breaker re-trips again, it is likely that one of the connected devices is causing the overload.

### Very low or no utility voltage

- Check the wall outlet that supplies power to the Back-UPS using a table lamp. If the lamp bulb is very dim, have the utility voltage checked by a qualified electrician.

### Portable generator being used to provide input voltage

- Set the Transfer Voltage and Sensitivity settings to Low (see Transfer Voltage and Sensitivity Adjustment). By setting the Back-UPS to Low sensitivity, it can accept a wider range of input voltage.

### Back-UPS does not power computer/monitor/external device during an outage

- Internal battery is not connected.
  - Check the battery connections.
- Computer monitor or external disk/CD-ROM drive is plugged into a Surge Only outlet.
  - Move the computer monitor, or external drive power cord plug to the Battery Backup outlets.

### Back-UPS operates on battery although normal utility voltage exists

- Back-UPS circuit breaker “tripped”.
  - Disconnect non-essential equipment from the Back-UPS. Reset the circuit breaker located on the rear panel of the Back-UPS by pushing the circuit breaker button fully inward until it clicks.
- The wall outlet that the Back-UPS is connected to does not supply utility power to the unit.
  - Connect the Back-UPS to another wall outlet or have a qualified technician check the building wiring.

### Back-UPS does not provide expected backup time

- Back-UPS is excessively loaded.
  - Unplug non-essential Battery Backup connected equipment, such as printers and plug them into Surge Only outlets. Note: Devices that have motors or dimmer switches (laser printers, heaters, fans, lamps, and vacuum cleaners, for example) should not be connected to the Battery Backup outlets.
- Back-UPS battery is weak due to recent outage and has not had time to recharge.
  - Charge the battery. The battery charges whenever the Back-UPS is connected to a wall outlet. Typically, eight hours of charging time are needed to fully charge the battery from total discharge. Back-UPS runtime is reduced until the battery is fully charged.
- Battery requires replacement.
  - Replace battery (see Order Replacement Battery). Batteries typically last 3-4 years, shorter if subjected to frequent power outages or elevated temperatures.

### A red indicator is lit

- Battery is not connected properly.
  - Check the battery connections.
- The Overload indicator is lit if equipment connected to the Battery Backup outlets is drawing more power than the Back-UPS can provide.
  - Move one or more equipment power plugs to the Surge Only outlets.
- Battery requires replacement.
  - The battery should be replaced within two weeks (see “Order Replacement Battery”). Failure to replace the battery will result in reduced run-time during a power outage.

### Red indicators are flashing

- Replace Back-UPS filter. Call APC for service.

### Replace Battery indicator lit and an alarm sounds when the Back-UPS is turned on

- Internal battery not connected.
  - Check the battery connections.

### Specifications

<table>
<thead>
<tr>
<th>Input Voltage (on line)</th>
<th>180 - 266 Vac (default setting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Limits (on line)</td>
<td>47 - 63 Hz (auto-sensing)</td>
</tr>
<tr>
<td>On Battery Wave Shape</td>
<td>Stepped Wave Form</td>
</tr>
<tr>
<td>Maximum Load</td>
<td>350 VA - 210 W</td>
</tr>
<tr>
<td>500 VA - 300 W</td>
<td></td>
</tr>
<tr>
<td>650 VA - 400 W</td>
<td></td>
</tr>
<tr>
<td>Typical Recharge Time</td>
<td>8 Hours</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0° to 40°C (32° to 104°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-15° to 60°C (5° to 140°F)</td>
</tr>
<tr>
<td>Operating and Storage Relative Humidity</td>
<td>5 to 90% non-condensing</td>
</tr>
<tr>
<td>Size (H x W x D)</td>
<td>16.5 x 9.2 x 28.5 cm (6.5 x 3.6 x 11.2 inches)</td>
</tr>
<tr>
<td>Weight</td>
<td>350 VA - 5.7 kg (12.5 lb)</td>
</tr>
<tr>
<td>500 VA - 5.9 kg (12.9 lb)</td>
<td></td>
</tr>
<tr>
<td>650 VA - 6.2 kg (13.6 lb)</td>
<td></td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>350 VA - 6.8 kg (14.9 lb)</td>
</tr>
<tr>
<td>500 VA - 7.0 kg (15.3 lb)</td>
<td></td>
</tr>
<tr>
<td>650 VA - 7.3 kg (16.1 lb)</td>
<td></td>
</tr>
</tbody>
</table>

### Back-UPS Storage

Before storing, charge the Back-UPS for at least eight hours. Store the Back-UPS covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

<table>
<thead>
<tr>
<th>Surge Only Temperature</th>
<th>Recharge Frequency</th>
<th>Charging Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0° to 45°C (32° to 113°F)</td>
<td>Every 6 months</td>
<td>8 hours</td>
</tr>
<tr>
<td>0° to 45°C (32° to 113°F)</td>
<td>Every 3 months</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

Please contact APC Technical Support to troubleshoot the unit before returning it to APC.

### Service

**Note:** If the UPS requires service, do not return it to the dealer. The following steps should be taken:

1. Consult the Troubleshooting section to eliminate common problems.
2. Determine if the circuit breaker is tripped. If the circuit breaker is tripped, reset the breaker and determine if the problem still exists.
3. If the problem persists, consult the APC Worldwide Web site (www.apc.com) or call customer service.
   - Record the model number of the UPS, the serial number, and the date purchased. Be prepared to troubleshoot the problem over the telephone with a technician. If this is not successful, the technician will issue a Return Merchandise Authorization Number (RMA#) and a shipping address.
   - If the UPS is under warranty, repairs are free. If not, there is a repair charge.
4. Pack the UPS in its original packaging. If the original packaging is not available, ask customer service about obtaining a new set. Pack the UPS properly to avoid damage in transit.

**Note:** Never use Styrofoam™ beads for packaging. Damage sustained in transit is not covered under warranty (insuring the package for full value is recommended).

5. Write the RMA# on the outside of the package.
6. Return the UPS by insured, prepaid carrier to the address provided by customer service.

### Warranty

The standard warranty is two (2) years from the date of purchase. APC’s standard procedure is to replace the original unit with a factory reconditioned unit. Customers who have the original unit back due to an extended asset tag and set depreciation schedules must declare such a need at first contact with an APC Technical Support representative. APC will ship the replacement unit once the defective unit has been returned to APC. Customers are responsible for the cost of shipping the defective unit to APC. The customer pays for shipping the unit to APC. APC pays ground freight transportation costs to ship the replacement to the customer.

### APC Contact Information

- USA/Canada: 1.800.808.4272
- Mexico: 202.8253 / 292.0285
- Brazil: 0800.12.72.71
- Worldwide: 1.401.789.9378
- Internet: http://www.apc.com
- Technical Support: http://www.apc.com/support

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