**Connect Battery**

The Back-UPS is shipped with the internal battery disconnected. Remove the battery cover and connect the battery as shown below. Refer to Replacing the Battery for additional information.

**Connect Equipment to the Back-UPS**

Battery Back Up Outlets (qty. of 3). These outlets are used for critical load devices. The outlets will not power through an overload condition, which forces the Back-UPS to switch to battery backup.

**Connect USB Cable and Install Software (optional)**

Note: The Back-UPS software CD-ROM provides data reporting and unattended shutdown of the computer connected to the device. The User’s Guide contains additional information about the Back-UPS software. The User’s Guide is contained in the main folder contained in the CD-ROM.

**Switch on the Back-UPS**

Note: Allow the Back-UPS to charge for a full eight hours before initial use.

Caution: The supply cord is the disconnect device for the product. The socket-outlet that you plug into shall be located near the equipment and shall be easily accessible. The socket outlet must be a grounded type.

1. Press the Power On/Off push-button on the Back-UPS.

2. The yellow On Battery indicator lights while the Self-Test is being performed.

3. When Self-Test has successfully completed, only the green On-Line indicator will be lit.

4. If the internal battery is not connected, (see step 1) the green On Line indicator and red Replace Battery indicator will light. The Back-UPS will also emit a series of short beeps for one minute.

5. Power on/off Switch button

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

- The green On-Line indicator flashes.
- The yellow On Battery indicator lights while the Self-Test is being performed.

- When Self-Test has successfully completed, only the green On Line indicator will be lit.
- If the internal battery is not connected, (see step 1) the green On Line indicator and red Replace Battery indicator will light. The Back-UPS will also emit a series of short beeps for one minute.

**Connect the Phone Line to Surge Protection**

The telephone port provides lightning surge protection for any device connected to the telephone line (computer, modem, fax or telephone). The telephone port is compatible with most ISDN-compliant networks, as well as all state of the art modem data rates. Connect as shown.

The optional USB Data Port connection is described in step 5.

**Status Indicators and Alarms**

To replace the internal battery, proceed as follows:

1. **On Line (green)** is lit whenever facility power is powering the Battery Backup outlets.
2. **On Battery (yellow)** is lit whenever the battery of the Back-UPS is powering equipment connected to the Battery Backup Outlets.
3. **Replace Battery (red)** is lit whenever the battery has failed the automatic diagnostic test.
4. **Beeps for 1 Minute Every 5 Hours** - this alarm sounds whenever the battery has failed the automatic diagnostic test.
5. **Overload (red)** is lit whenever power demand has exceeded the capacity of the Back-UPS.
6. **Continuous Tone** - this alarm notifies when the Battery Backup outlets are overloaded.
7. **Circuit Breaker** - the circuit breaker located at the side of the Back-UPS will trip out if an overload condition forces the Back-UPS to disconnect, itself from facility power. If the circuit breaker trips out, disconnect non-essential equipment. Reset the circuit breaker by pushing the button inward.
8. **Replace Battery** - this alarm is triggered whenever the battery backup system needs to be replaced.

**Mac OS 9 (9.0.4 or higher) Users**

APC Shutdown Manager software has been designed specifically to work with Mac OS 9 (9.04 or higher, except OS X). There are two versions of the Mac OS page Mac OS 9.0.4 with power drivers that have known problems. Ensure that the most up to date version of Mac OS 9.0.4 or higher is installed on the system.

Insert the APC Installation CD-ROM into the Back-UPS drive. An icon called “APC Shutdown Manager v1.0” will appear on the computer desktop. Open the folder and double-click the “Readme” file. Ensure that the computer’s hard drive contains the required installer in the Readme file. Double-click on “APC Shutdown Manager v1.0” to begin the installation of the software. At the final dialog, click on “Continue”. Read the displayed license agreement and click “Agree” to agree to the terms. Click on “Install” to begin. After installation, click on the “Restart” dialog button to restart the computer.

**All Other Users**

The software is designed for the Windows and Macintosh operating systems mentioned in this section. If one of these operating systems is not installed on the computer, the Back-UPS will still provide these primary features:

- Battery backup, surge protection, and telephone line protection to protect the entire desktop from lightning and power surges.
- Runtime needed to work through brief power disturbances. This allows time to manually save data and shut down safely.

The alarmed features include Unattended Automatic Operation System Shutdown and Automatic Data Saving.

To perform this 6-step procedure:

1. Place the end of the dial in the flat surface. Press the battery cover latch and remove the battery cover.
2. Pull the battery out of the housing, exposing the battery wire and connector. Pull up on the battery connector. Recycle the old battery.
3. Connect the new battery to the battery connector. Place the battery in the housing.
4. Connect the new battery to the battery connector. Place the battery in the housing.
5. Slide the tabs on the battery cover into the slots on the back of the battery cover. Push the battery cover down and slide the tabs into the housing.
Troubleshooting

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

Possible Cause

Back-UPS will not switch on

- Back-UPS does not connect to an AC power source.
- Check that the Back-UPS power plug is securely connected to the wall outlet.

- 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-sets, the Back-UPS will in re-charge and re-connect the equipment one-at-a-time; if the circuit breaker trips again, it is likely that one of the connected devices is causing the overload.

- Very low or no facility 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 facility voltage checked by a qualified electrician.

- Back-UPS does not power computer/monitor/external drive during an outage
- Internal battery is not connected.
- Check the battery connections. (refer to Replace the Internal Battery).

- Computer, monitor or external disk (CD-ROM drive is plugged into a Surge Only outlet).
- Move computer, monitor, or external drive power cord plug to the Back-UPS Only outlets.

- Back-UPS operates on battery although normal facility 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 facility power to the unit.
- Connect the Back-UPS to another wall outlet or have a qualified electrician check the building wiring.

- Back-UPS does not provide expected backup time
- Back-UPS is excessively loaded.
- Plug only essential equipment to the Back-UPS. Load the Back-UPS up to 50% of its capacity.

- 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 the Battery Backup outlets.

- Battery requires replacement.
- Replace battery (refer to Order Replacement Battery). Batteries typically last 3-6 years, shorter if subjected to frequent power outages or elevated temperatures.

Replace Battery indicator is lit

- Battery is not connected properly.
- Check the battery connections. Refer to Replace the Internal Battery.

- Battery requires replacement.
- The battery should be replaced within two weeks (see "Order Replacement Battery"). Batteries typically last 3-6 years, shorter if subjected to frequent power outages or elevated temperatures.

Replace Battery indicator is flashing

- Battery Back Up outlets are drawing more power than the Back-UPS can provide.
- Move one or more equipment power plugs to the Surge Only outlets. Turn the Back-UPS off and then on to reset the Overload indicator can provide.

Replace Battery indicator is flashing

- Back-UPS failure.
- Document the Back-UPS from facility power. Call APC for service.

Specifications

- Input Voltage (on line) 110 - 264 Vac (default setting)
- Frequency Limits (on line) 46 - 65 Hz (autotuning)
- On Battery Waveshape Stepped Sine Wave
- Minimum Load 380 VA - 225 W / 500 VA - 325 W
- Typical Recharge Time 4 Hours
- Operating Temperature 0° to 40°C (32° to 104° F)
- Storage Temperature -20° to 60°C (4° to 140° F)
- Operating and Storage Relative Humidity 0 to 95% non-condensing
- Size (H x W x D) 8.1 x 11 x 45.3 cm (3.2 x 4.4 x 17.8 inches)
- Weight 350 VA - 3.1 kg (6.8 lbs) / 500 VA - 3.4 kg (7.5 lbs)
- Shipping Weight 350 VA - 3.4 kg (7.5 lbs) / 500 VA - 4.1 kg (9.0 lbs)
- EMI Classification EN 55022 Class B
- On Battery Run-Time 350 VA - 11 minutes, 500 VA - 20 Minutes

Order Replacement Battery

The typical battery lifetime is 3-6 years (depending on the number of discharge cycles and operating temperature). A replacement battery can be ordered over the phone from APC, or the battery can be ordered on-line from the APC web site (see below, a valid credit card is required).

When ordering, please specify Battery Cartridge: 350 VA order RBC30, 500 VA order RBC30.

Transfer Voltage Adjustment (optional)

In situations where the Back-UPS appears too sensitive to low facility input voltage, it may be necessary to adjust the transfer voltage. This is a simple task requiring use of the Power On/Off pushbutton. To adjust the lower transfer voltage (LTV), proceed as follows:

1. Plug the Back-UPS into the facility power source. The Back-UPS will be in a Standby Mode (no indicator lit).
2. Press the front panel pushbutton fully inward for 10 seconds. All indicators on the Back-UPS will flash to acknowledge going into Programming Mode.
3. The Back-UPS will then indicate its current Lower Transfer Voltage, as shown in the following table:

<table>
<thead>
<tr>
<th>Storage Temperature</th>
<th>Back-UPS Frequency</th>
<th>Charging Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 to 30°C (23 to 86°F)</td>
<td>Every 6 months</td>
<td>8 hours</td>
</tr>
<tr>
<td>50 to 45°C (96 to 113°F)</td>
<td>Every 3 months</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

4. To select 160 volts as the LTV, press the pushbutton repeatedly until 1 indicator is flashing.
5. To select 180 volts as the LTV, press the pushbutton until 2 indicators are flashing.
6. To select 196 volts as the LTV, press the pushbutton until 3 indicators are flashing.
7. Once in Programming Mode, if the pushbutton is not pressed within 5 seconds, the Back-UPS will exit the Programming Mode, and all indicators will extinguish.

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:

Storage Temperature | Battery Life |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-30 to 30°C (23 to 86°F)</td>
<td>Every 6 months</td>
</tr>
<tr>
<td>50 to 45°C (96 to 113°F)</td>
<td>Every 3 months</td>
</tr>
</tbody>
</table>

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.

Wall Mount of UPS

The UPS can be mounted vertically or horizontally to a wall surface. Use the template below to position the mounting fasteners (not supplied). Wall mount the UPS as follows:

1. Hold this page against the wall in the desired mounting location.
2. Use thumbtacks or tape to hold this page in place against the wall. Use a sharp nail or pin to puncture the center of each template circle to mark the wall.
3. Install the mounting fasteners at the marked locations. Leave the head of both fasteners 8 mm (5/16") out from the face of the wall. The fasteners must be able to support 6.8 kg (15 lb).

4. Mount the UPS by positioning the key-hole slots over the mounting fastener heads. For vertical mounting, slide the UPS down into place. For horizontal mounting, turn it slightly counter-clockwise until it is securely in place.