by Schneider Electric

User Manual Back-UPS™ Pro BR 1100/1350/1500 M2-LM

Safety and General Information

Inspect the package contents upon receipt. Notify the carrier and dealer if there is any damage.

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

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.

Failure to follow these instructions will result in death or serious injury.

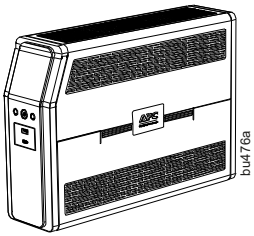
⚠ CAUTION

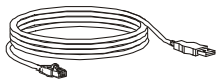
RISK OF HYDROGEN SULPHIDE GAS AND EXCESSIVE SMOKE

- Connect the UPS power cable directly to a wall outlet.
- Battery must be replaced when they reach end of service life.
- Batteries must be replaced when the unit indicates battery replacement is necessary.
- When replacing batteries, replace with the same number and type of batteries originally installed in the unit.
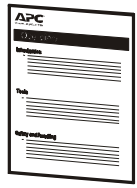
Failure to follow these instructions could result in minor or moderate injury and equipment damage.

Inventory



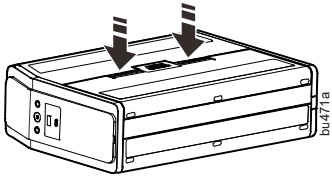


USB communication cable

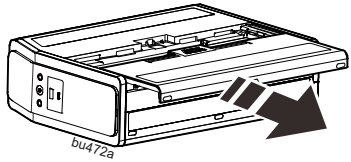


Connect the Battery

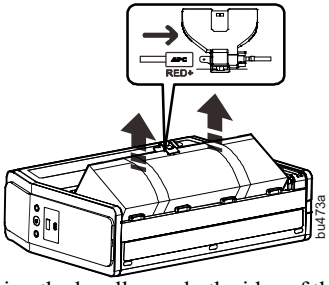
The UPS is shipped with the battery disconnected.



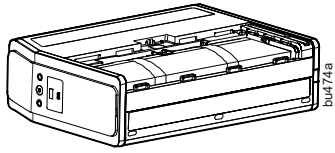
❶ Lay the UPS with the battery door facing up. The arrows point to the locking tabs of the battery compartment.



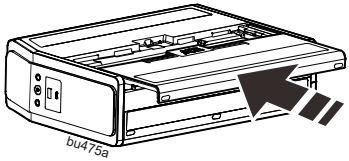
❷ Press the tabs downwards and pull the battery door away from the unit to access the battery modules.



❸ Using the handles on both sides of the battery, lift the battery 30 degrees upward to expose the battery connector. Connect the red wire as shown above.



❹ Push the battery into the unit.



❺ Replace the battery door.

Install PowerChute™ Personal Edition Software

Use PowerChute Personal Edition software to configure the UPS settings. During a power outage, PowerChute will save any open files on your computer and shut it down. When power is restored, it will restart the computer.

Note: PowerChute is only compatible with a Windows operating system. If you are using Mac OSX, use the native shutdown feature to protect your system. See the documentation provided with your computer.

Installation

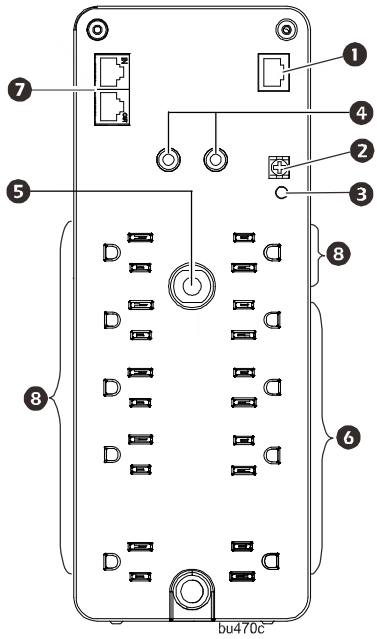
Use the USB communication cable supplied with the Back-UPS to connect the data port on the Back-UPS to the USB port on your computer. On the computer, go to www.apc.com Search for “PowerChute Personal Edition” then click on “View Details” to download the latest version of PCPE software**.** Click the download link and select Software product. Select the appropriate operating system. Follow directions to download the software.

Connect the Equipment

Battery Backup and Surge Protected outlets

When the Back-UPS is receiving input power, the Battery Backup with Surge Protection outlets will supply power to connected equipment. During a power outage or other AC problems, the Battery Backup outlets receive power for a limited time from the Back-UPS.

Connect equipment such as printers, fax machines, scanners, or other peripherals that do not need battery backup power to the Surge Protection Only outlets. These outlets provide full-time protection from surges even if the Back-UPS is switched OFF.



❶	**USB and Serial Data port**	To use PowerChute Personal Edition, connect the supplied USB communication cable or an optional serial cable (not supplied).
❷	**Ground screw**	Connect the ground lead from an additional surge suppression device such as a stand-alone data line surge protector.
❸	**Building Wiring Fault indicator**	If this indicator is illuminated, there is a problem with the wiring in the building. Contact an electrician immediately and do not use the Back-UPS.
❹	**Coaxial ports with surge protection**	Connect a cable modem or other equipment with coaxial jacks.
❺	**Circuit Breaker**	Use to reset the system after an overload condition has occurred causing the circuit
❻	**Surge Protected outlets**	These outlets provide full-time protection from surges, even if the Back-UPS is off. Connect equipment such as printers and scanners that do not require battery backup protection.
❼	In/Out **Ethernet surge-protected ports**	Use an Ethernet cable to connect a cable modem to the IN port, and connect a computer to the OUT port.
❽	**Battery Backup outlets with Surge Protection**	During a power outage or other AC problems, the Battery Backup outlets receive power for a limited time from the Back-UPS. Connect critical equipment such as desktop computer, computer monitor, modem or other data sensitive devices into these outlets.

Operation

Power Saving Display

The display interface can be configured to be continuously illuminated, or to save energy, it can be configured to darken after a period of inactivity.

1. Full Time Mode: Press and d DISPLAY for two seconds. The display will darken and the Back-UPS will beep to confirm the Power Saving mode. While in Power Saving Mode, the display will illuminate if a button is pressed, it then darkens after 60 seconds of no achold DISPLAY for two seconds. The display will illuminate and the Back-UPS will beep to confirm the Full Time mode.
2. Power Saving Mode: Press and holtivity.

Unit Sensitivity

Adjust the sensitivity of the Back-UPS to control when it will switch to battery power; the higher the sensitivity, the more often the Back-UPS will switch to battery power.

1. Ensure the Back-UPS is connected to AC power, but is OFF.
2. Press and hold the POWER button for six seconds. The LOAD CAPACITY bar will flash on and off, indicating that the Back-UPS is in programming mode.
3. Press POWER again to rotate through the menu options. Stop at selected sensitivity. The Back-UPS will beep to confirm the selection.

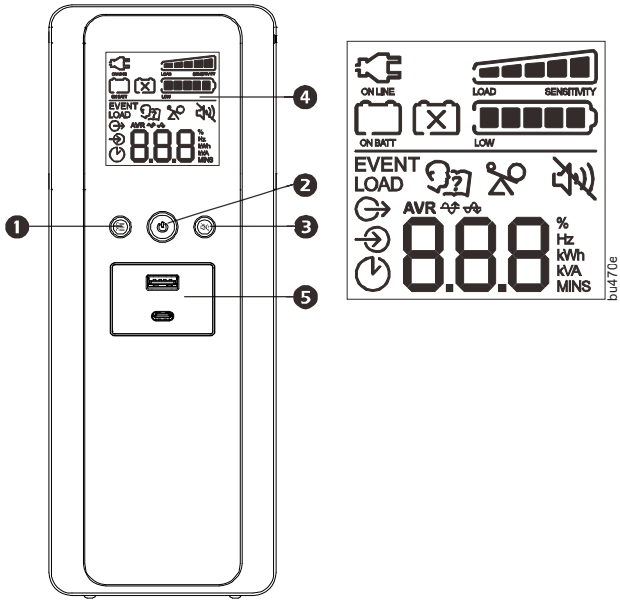
Generator Sensitivity	Default	Sensitive Loads
		
Low sensitivity	Medium sensitivity (Default)	High sensitivity
78-150 Vac	88-147 Vac	88-144 Vac
Input voltage is extremely low or high. (Not recommended for computer loads.)	*The Back-UPS frequently switches to battery power.*	*The connected equipment is sensitive to voltage fluctuations.*

Front Panel Buttons and Display Interface

Use the three buttons on the front panel of the Back-UPS and the display interface to configure the Back-UPS.

Front panel

1. Display button
2. Power On/Off button
3. Mute button
4. Display interface
5. USB charging ports: The 2 USB ports provide a total of 15W of DC power, and will provide power even when the UPS is on battery.



ON LINE	**On Line:** The Back-UPS is supplying conditioned AC power to connected equipment
	Load Capacity: The load is indicated by the number of sections illuminated, one to five. Each bar represents 20% of the load.
	Battery Capacity: The battery charge level is indicated by the number of blocks illuminated. When all five blocks are illuminated, the Back-UPS is at full charge.
LOW	**Low Battery:** When battery capacity reaches the empty level, the Back-UPS is nearing shutdown and the indicator will flash accompanied by a continuous beep.
	Replace Battery: The battery is nearing the end of its useful life. When the display shows a flashing Replace Battery icon and an empty Battery Capacity icon, replace the battery as early as possible.
ON BATT	**On Battery:** The Back-UPS is supplying battery backup power to the connected equipment, it will beep four times every 30 seconds.
EVENT	**Event:** The event counter shows the number of events that occurred that caused the Back-UPS to switch to on-battery operation.
	System Error Detected: The system has an error. The error number will illuminate on the display interface. See *"System Errors" on page 8*.
	Overload: The power demand from the load has exceeded the capacity of the Back-UPS.

	**Mute:** If the line through the speaker icon is illuminated, the audible alarm has been turned off.
	**Out:** Output voltage, frequency **In:** Input voltage.
AVR 	**Automatic Voltage Regulation:**  When illuminated, the Back-UPS is compensating for low input voltage  When illuminated, the Back-UPS is compensating for high input voltage.
	**Estimated Run Time:** This indicates the battery runtime minutes that remain if the Back-UPS switches to battery power.
LOAD	**Load:** The total load in watts (W) or percentage(%) used by the devices connected to the Battery Backup outlets.

Alarms and System Errors

Audible Indicators

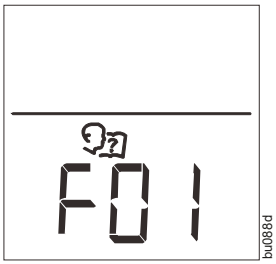
Four Beeps Every 30 Seconds	Back-UPS is running on battery. You should consider saving any work in progress.
Continuous Beeping	Low battery condition and battery run-time is very low. Promptly save any work in progress, exit all open applications, and shut down the operating system.
Continuous tone	Battery Backup outputs are overloaded.
Chirps every 2 Seconds	Battery is disconnected.
Continuous chirping	Battery did not pass the automatic diagnostic test and should be replaced as early as possible. Pressing the MUTE button pauses the chirping.

Status Icons

If these icons are flashing...	This may be the problem.
	The Back-UPS is overloaded. Disconnect one of the items connected to the Back-UPS. If the Overload icon stops flashing, the Back-UPS is no longer overloaded and will continue to operate normally.
	The Back-UPS is operating on AC power, but the battery is not functioning properly. Contact Schneider Electric IT (SEIT) Customer Service to order a replacement battery. See *"Replacement Battery" on page 11*.
	The Back-UPS is operating on battery power and the battery power is getting low. Shut down all connected equipment to avoid losing an unsaved data. When possible, connect the Back-UPS to AC power to recharge the battery.
	The battery is not connected. See *"Connect the Battery" on page 2* to make sure battery wires are connected properly.

System Errors

The Back-UPS will display these error messages. Except for errors F01 and F02, contact SEIT Technical Support.



F01	On-Battery Overload	Turn the Back-UPS off. Disconnect non-essential equipment from the Battery Backup outlets and the turn Back-UPS on.
F02	On-Battery Output Short	Turn the Back-UPS off. Disconnect all equipment from the Battery Backup outlets and the turn Back-UPS on. Re-connect equipment one item at a time. If the output is tripped again, disconnect the device that caused the error.
F04	Clamp Short	Errors F04-F09 cannot be corrected by the user, contact SEIT Technical Support for assistance.
F05	Charge Error	
F06	Relay Welding	
F07	Temperature	
F08	Fan Error Detected[*1]	
F09	Internal Error	

[*1]: BR1500M2-LM only

Function Button Quick Reference

Function	Button	Timing (seconds)	UPS Status	Description
Power				
Power On		0.2	Off	Press POWER to start receiving input AC power. If AC input power is not available, the Back-UPS will run on battery power.
Power Off		2	On	The Back-UPS is not receiving input AC power, but is providing surge protection.
Display				
Status Inquiry		0.2	On	Verify the status or condition of the Back-UPS. The LCD will illuminate for 60 seconds. Press the button the toggle into various information.
Full-Time/ Power-Saving mode		2	On	The LCD will illuminate and the Back-UPS will beep to confirm the Full-Time mode. The LCD will darken and the Back-UPS will beep to confirm the Power-Saving mode. While in Power-Saving Mode, the LCD will illuminate if a button is pressed, then darkens after 60 seconds of no activity.
Mute				
Enable/ Disable mode		2	On	Enable or disable the audible alarms. The Mute icon will illuminate and the Back-UPS will beep one time.
Sensitivity		6	Off	The Load Capacity icon will blink, indicating that the Back-UPS is in programming mode. Use the POWER button to scroll through Low, Medium, and High, stop at selected sensitivity. The Back-UPS will beep to confirm selection. See *"Unit Sensitivity"* for details.
Self-Test (manual)		6	On	The Back-UPS will perform a test of the internal battery. Note: This will happen automatically when the Back-UPS is turned ON or when the Back-UPS previously detected a bad battery.
Event Reset		0.2	On	When the Event screen is visible, press and hold DISPLAY, then press POWER, to clear the detected error event counter.
Error Reset		2	Error	After an error has been identified, press POWER to remove the visual indication and return to standby status.

Troubleshooting

Problem	Possible Cause	Corrective Action
Back-UPS will not switch on.	The Back-UPS is not connected to AC power.	Ensure that the Back-UPS is securely connected to an AC outlet.
	The circuit breaker has been tripped.	Disconnect non-essential equipment from the Back-UPS. Reset the circuit breaker. Re-connect equipment one item at a time. If the circuit breaker is tripped again, disconnect the device that caused the trip.
	The internal battery is not connected.	Connect the battery.
	The AC input voltage is out of range.	Adjust the transfer voltage and sensitivity range.
The Back-UPS does not provide power during a AC power outage.	Ensure that essential equipment is **not** plugged into a SURGE ONLY outlet.	Disconnect equipment from the SURGE ONLY outlet and re-connect to a Battery Backup outlet.
The Back-UPS is operating on battery power, while connected to AC power.	The plug has partially pulled out of the wall outlet, the wall outlet is no longer receiving AC power, or the circuit breaker has been tripped.	Ensure that the plug is fully inserted into the wall outlet. Ensure that the wall outlet is receiving AC power by checking it with another device.
	The Back-UPS is performing an automatic self test.	No action is necessary.
	The AC input voltage is out of range, the frequency is out of range, or the waveform is distorted.	Adjust the transfer voltage and sensitivity range.
The Back-UPS does not provide the expected amount of backup time.	Battery Backup outlets may be fully or improperly loaded.	Disconnect non-essential equipment from the Battery Backup outlets and connect the equipment to SURGE outlets.
	The battery was recently discharged due to a power outage and has not fully recharged.	Charge the battery cartridge for 16 hours.
	The battery has reached the end of its useful life.	Replace the battery.
The REPLACE BATTERY **indicator is illuminated.**	The battery has reached the end of its useful life.	Replace the battery as early as possible.
The OVERLOAD indicator is illuminated.	The equipment connected to the Back-UPS is drawing more power than the Back-UPS can provide.	Disconnect non-essential equipment from the Battery Backup outlets and connect the equipment to SURGE outlets.
The SYSTEM ERROR **indicator is illuminated, all the front panel indicators are flashing.**	There is an internal error.	Determine which internal error message is displayed by matching the number displayed on the LCD with the corresponding Error Message (see *"System Errors"*) and contact SEIT Technical Support.

Specifications

	BR1100M2-LM	BR1350M2-LM	BR1500M2-LM
VA	1100 VA	1350 VA	1500 VA
Maximum Load	600W	810W	900W
Nominal Input Voltage	120 V		
Online Input Voltage Range	88 - 147 V		
Automatic Voltage Regulation	Boost by +11.5% when input voltage drops below limit		
	Trim by -11.5% when input voltage exceeds limit		
Frequency Range	50/60 Hz ± 3 Hz		
On-battery Waveshape	Step-approximated sine-wave		
USB charging port	Type C*1, Type A*1 (15W in total)		
Typical Recharge Time	16 hours		
Transfer Time	8 ms typical, 10 ms maximum		
Operating Temperature	32 to 104 ^{o}F (0 ~ 40 ^{o}C)		
Storage Temperature	23 to 113 ^{o}F (-15 ~ 40 ^{o}C)		
Unit Dimensions	11.9 ×4.4 ×15.0 in (368 ×100 ×260 mm)		
Unit Weight	23.1 lb (10.5 kg)	23.8 lb (10.8 kg)	26.0 lb (11.8 kg)
Interface	USB and Simple Signal		
On-Battery Runtime	Go to http://www.apc.com/product		

Replacement Battery

The battery typically lasts for 3 to 5 years, a shorter period if subjected to frequent outages or elevated temperatures. Battery replacement parts for Back-UPS Pro **BR1100M2-LM** is **APCRBC160,** for **BR1350M2-LM** is **APCRBC162**, and for **BR1500M2-LM** is **APCRBC161**. Delaying the replacement of parts may corrode the batteries in the cartridge. Recycle spent battery cartridges.

Warranty

The standard warranty is three (3) years from the date of purchase. Schneider Electric IT (SEIT) standard procedure is to replace the original unit with a factory reconditioned unit. Customers who must have the original unit back due to the assignment of asset tags and set depreciation schedules must declare such a need at first contact with an SEIT Technical Support representative. SEIT will ship the replacement unit once the defective unit has been received by the repair department, or cross ship upon the receipt of a valid credit card number. The customer pays for shipping the unit to SEIT. SEIT pays ground freight transportation costs to ship the replacement unit to the customer.

APC by Schneider Electric IT Customer Support Worldwide

For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.

EMC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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