

**Before You Start**

**VERY IMPORTANT:  
CHARGE BEFORE USE**

CHARGE BEFORE USE for at least 24 hours. For the life of the product keep it plugged in OR recharge every 3 months to prevent permanent battery damage.

**IMPORTANT SAFETY INSTRUCTIONS**

When using your PowerSource, basic precautions should always be followed, including the following:

Operating the PowerSource incorrectly or misusing it may damage the equipment or create hazardous conditions for the user. See all WARNING statements below.

**SAVE THESE INSTRUCTIONS**—This manual contains important instructions. They need to be followed during installation and operation of this product.

**Instructions Pertaining to Risk of Fire, Electric Shock or Injury to Persons**

**WARNING**

When using this product, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not put fingers or hands into the product.
3. Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons.
4. To reduce risk of damage to the electric plug and cord, pull the plug rather than the cord when disconnecting the PowerSource.
5. Do not use a battery pack or appliance that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
6. Do not operate the PowerSource with a damaged cord or plug, or a damaged output cable.
7. Do not disassemble the PowerSource; take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.
8. To reduce the risk of electric shock, unplug the PowerSource from the outlet before attempting any instructed servicing.

**WARNING: Risk of explosive gases**

1. WORKING IN VICINITY OF A LEAD ACID BATTERY IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL BATTERY OPERATION. FOR THIS REASON, IT IS OF THE UTMOST IMPORTANCE THAT YOU FOLLOW THE INSTRUCTIONS EACH TIME YOU USE THE POWERSOURCE.
2. TO REDUCE RISK OF BATTERY EXPLOSION, FOLLOW THESE INSTRUCTIONS AND THOSE PUBLISHED BY BATTERY MANUFACTURER AND MANUFACTURER OF ANY EQUIPMENT YOU INTEND TO USE IN VICINITY OF THE BATTERY. REVIEW CAUTIONARY MARKING ON THESE PRODUCTS AND ON ENGINE.

**PERSONAL PRECAUTIONS**

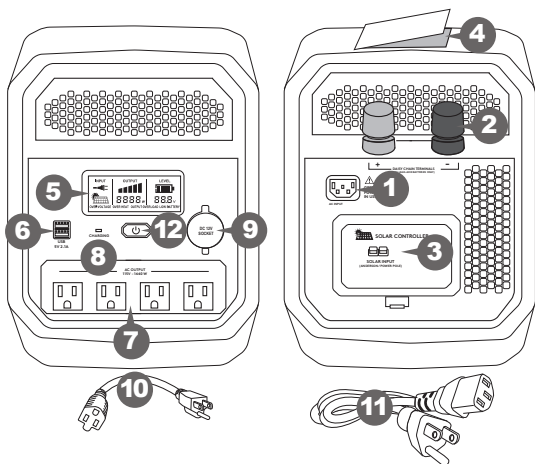
1. Consider having someone close enough by to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near battery.
4. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention immediately.
5. NEVER smoke or allow a spark or flame in vicinity of battery or engine.
6. Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
7. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
8. When charging the internal battery, work in a well ventilated area and do not restrict ventilation in any way.
9. Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
10. Do not expose the PowerSource to fire or excessive temperature. Exposure to fire or temperature above 130°C may cause explosion. The temperature of 130°C can be replaced by the temperature of 265°F.
11. Have servicing performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.

**SAVE THESE INSTRUCTIONS**

**WARNING: Risk of injury or loss of life**

Do not use this product in connection with life support systems or other medical equipment or devices.

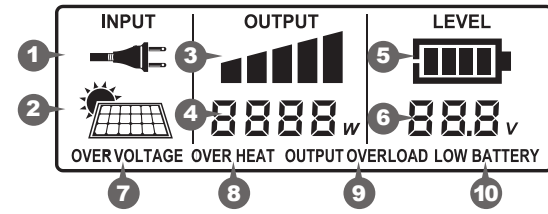
**Features**



1	<b>AC input port:</b> Use AC cord provided or UL approved extension cord.
2	<b>Daisy chain terminals:</b> Connects to external 12V lead-acid batteries only
3	<b>Solar charge controller:</b> Connects to 12V, 40-100W solar panel
4	<b>Storage tray:</b> Holds AC input and output extension cords and user manual
5	<b>LED Screen:</b> indicates charging status, power draw from the PowerSource when providing backup power, or battery capacity (%).
6	<b>USB ports:</b> Provide up to 2.1A from each port to charge USB devices.

7	<b>AC outlets:</b> Provide up to 1440 Watts of household power. (4 outlets total).
8	<b>Charging LED:</b> • Flashes when charging • Solid when charged
9	<b>DC accessory socket:</b> Powers 12V devices.
10	<b>Output extension cord:</b> Extends the reach of the AC outlets for easier connection to your household electronics and appliances
11	<b>AC input cord:</b> Plugs into the AC input port to power and charge the Powersource from any wall outlet
12	<b>Power button:</b> Press and hold for 2 seconds to turn the PowerSource unit on / off.

**Reading The LCD Display**



1	<b>AC Input:</b> Input source is wall AC
2	<b>Solar input:</b> Input source is solar panel (sold separately)
3	<b>Bar graph Watt meter:</b> 5 bars is maximum rated continuous output
4	<b>Digital Watt meter:</b> • Shows inverter output power in Watts (W) • Shows "-." if the power is less than 50W • Not active when running on wall power • Shows AC power only (not USB power)

5	<b>Fuel gauge:</b> Displays battery level
6	<b>Battery voltage</b>
7	<b>Over voltage warning:</b> Input over voltage
8	<b>Overheat:</b> Inverter overheating; will shut down
9	<b>Output overload:</b> Inverter overload; will shut down
10	<b>Low battery level:</b> Internal battery low; please recharge the unit

**Installation and Operation**

**WARNING: Shock hazard**

If the input plug is connected and wall AC outlet power is present, the outlets will be energized.

**IMPORTANT**

The PowerSource should be placed in a dry, well ventilated area with at least 6 inches of space in front and back of the unit for proper ventilation.

**CAUTION: Equipment damage**

- Do not plug surge-protected power bars into the unit's 115 VAC outlets.
- Do not connect an AC power source to the 115 VAC outlets.

**Using the PowerSource**

1. Plug the AC input cord directly into a wall outlet (not into a surge protector or power strip). This will charge the unit and maintain the battery in optimal condition. You may leave it connected when not in use.
2. Turn on the unit by pressing the power button for one second.



The LCD screen, power inverter, USB ports and Instant-On UPS function will turn on.

**Charging with a solar panel**

1. Use a 12V, 40-100W solar panel.
2. The PowerSource has a built-in solar charge controller. Do not use a panel with its own charge controller.
3. Connect the solar panel to the solar controller input terminals.
4. If the AC input is connected, the PowerSource will use the AC input instead of the solar input.

**Backup Power Feature**

The instant-on UPS function provides uninterrupted power to connected devices in the case of a power failure or other utility problems such as brownouts. Note: The unit must be ON for this function to work. See "Run Time on Typical Products" section for run times. When utility power is restored, the unit will automatically begin to recharge

**AC Power Capabilities**

Total power of devices	Operate on utility power?	Operate on backup power?
Up to 1440 W	Yes	Yes (up to 1440 W continuous in backup power mode)
Over 1440 W	No. Supplementary protector may trip.	No. Overload shutdown.

To check the total power consumption of the products plugged into the PowerSource during backup power mode, press the Power button and view the Output Power (W) on the screen.

To test the PowerSource backup power capabilities after installing the unit, unplug the AC power cord to simulate a power outage and ensure the products connected to the PowerSource continue operating. You can test the surge capabilities of the PowerSource by turning connected products on and off while the unit is unplugged. If products fail to operate or the screen shows an error message, see "Troubleshooting".

**Run Time on Typical Products<sup>c</sup>**

Product	Watts/Watt-Hrs <sup>a</sup>	Run Time (h) / Recharges(X) <sup>b</sup>
iPhone 8	7 Wh	60X
iPhone XR	11 Wh	40X
iPhone XS	10 Wh	40X
iPad Pro 11"	29 Wh	14X
Laptop 65W, 36Wh battery	65 W	8X
LED string lights (50 lights)	3.5 W	150 h
Speakers	60 W	8 h
Table lamp – LED bulb	7 W	70 h
32" LED/LCD TV	28 W	15 h
Desktop computer (all in one)	65 W	8 h
8.8 cu. ft. freezer	80 W	7 h
Mini fridge 1.7 Cu ft	30 W	14 h
Full Size Refrigerator (18 Cu ft max)	90 W	5 h
Sump pump ½ HP	300 W	1 h

- <sup>a</sup> Average power consumption as measured on loads tested under regular operating conditions. Rated power may differ from average power consumption.
- <sup>b</sup> Run time as measured on tested loads.
- <sup>c</sup> If you plug in devices that have a high power requirement (a large refrigerator), the charge level can drop very quickly and you may not obtain all the capacity; if you're recharging devices that draw lower power (30W) you will get closer to the rated capacity.

**GUIDELINES FOR USE**

**Important:** The PowerSource is not suitable for use with certain products and loads. The continuous output wattage of this product is limited to 1440 watts total when supplying backup power from its batteries. This limit applies to the total of all items plugged into the product.

## PRECAUTIONS ON USING CERTAIN APPLIANCES

### ⚠ CAUTION: Equipment damage

When the PowerSource is supplying backup power from its battery, its output is a non-sinusoidal modified sine wave, which is different from pure sine wave utility-supplied electricity. Certain types of load equipment may be damaged.

We do NOT recommend using the following appliances:

- **Battery chargers** for AA/AAA batteries, electric toothbrush chargers etc.
- **Electric heaters, grills, large microwave ovens and irons.** The high wattage of these appliances will drain the battery energy within a few minutes
- **Air conditioners.** The large surges from the compressor may cause overloads and the high wattages will result in very short run times.
- **Speed controllers found in some fans, power tools, kitchen appliances, garage door openers, and other loads** may be damaged.
- **Metal halide arc (MHI) lights.** These lights can be damaged.

### ⚠ NOTE

If you are unsure about using your rechargeable appliance with the PowerSource, contact the equipment manufacturer to determine the rechargeable appliance's compatibility with the modified sine wave (non-sinusoidal) AC wave form.

### ⚠ CAUTION: GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes ordinances.

**WARNING** – Improper connection of the equipment grounding conductor may result in a risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

**Caution:** Floating Grounding. Ground is floating when AC input cord is not connected to a wall outlet.

## Power Management Tips

During a power outage, maximizing PowerSource run time is essential to keep your home/small office running or to stay connected to the outside world through a TV, radio or phones. Therefore, in order to maximize the run time for combinations of office products plugged into PowerSource, you may want to use the following alternatives:

Use...	Instead of...
Inkjet printer	Laser printer
Laptop, or desktop computer with LCD monitor	Desktop computer with CRT monitor
Monitor energy saving mode settings	Bright monitor settings
21 or 32" LCD/LED TVs	Big screen TVs
LED lamps	Incandescent lamps

## Attaching An External Battery (Extending the Battery Capacity)

You can extend the run time for your devices by attaching an external 12V battery in parallel using the Daisy-chain terminal (see **Features**). To attach an external battery you will need to purchase battery cables with ring terminals. We recommend 2AWG cables, 3 ft. long. If a permanent installation is required we recommend using a 200A in-line fuse.

## Replacing the PowerSource's Internal Battery or Safety Fuse

### ⚠ CAUTION: Shock hazard

Before attempting to replace the battery, please consult with an electrician or mechanic.

1. To access the battery and/or fuse, remove the 6 hex head screws and pull lid off.

#### To replace battery:

1. Use ratchet tool with a 10mm socket to disassemble battery cables. **\*Note:** Make sure to not lose or drop washers which are located on both sides of the battery cables. Once cables are loose, place the cables out of the way to avoid any shock hazards.
2. Use ratchet tool with a 13mm socket to remove the battery brace. **\*Note:** Make sure to not lose or drop washers when removing brace.
3. Carefully lift the battery. **\*CAUTION: Battery is heavy!**
4. Place new battery into the PowerSource. **\*Note:** Please see Specifications for battery compatibility.
5. Re-attach the battery brace.
6. Re-attach the battery cables onto your new battery.

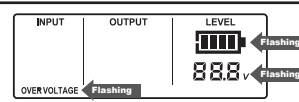
#### To replace safety fuse: A reverse connection or short circuit may blow the internal safety fuse.

1. Replace only with a UL-approved 200 Amp ANL type fuse.
2. Replace the blown fuse with the new fuse and tighten the screws properly to ensure a good connection.

## Operation Guide

Operation	LCD Display	Notes
<b>Charging from wall:</b> Plugged into wall AC outlet, PowerSource is off and battery is charging.	LCD screen is blank.	<ul style="list-style-type: none"> <li>• LCD: Off</li> <li>• Charge LED: Blinking when charging and solid when charged</li> </ul>
<b>Charging, UPS ready:</b> Plugged in wall AC outlet, PowerSource is ON and ready to provide instant backup power.		<ul style="list-style-type: none"> <li>• LCD: On</li> <li>• INPUT: AC cord icon</li> <li>• OUTPUT: Blank, power is passing from AC wall source, inverter is not providing power.</li> <li>• LEVEL: Battery level and Battery voltage is displayed</li> </ul>
<b>Backup Power:</b> After power outage the PowerSource instantly provides power to connected devices.		<ul style="list-style-type: none"> <li>• INPUT: Blank, there is no input from the wall</li> <li>• OUTPUT: Displays output graph and output wattage supplied by Inverter</li> <li>• LEVEL: Shows battery level and battery voltage - Battery level is voltage based so you may see sudden changes in Battery Level and Voltage when loads change.</li> </ul>
<b>Charging from Solar source only, PowerSource OFF:</b> Solar panel connected, Wall AC not connected.	LCD screen is blank.	<ul style="list-style-type: none"> <li>• LCD: Off</li> <li>• Charge LED: Blinking when charging and solid when charged</li> </ul>
<b>Charging from Solar source only, PowerSource ON:</b> Solar panel connected, Wall AC not connected, PowerSource is ON.		<ul style="list-style-type: none"> <li>• LCD: On</li> <li>• INPUT: solar icon</li> <li>• OUTPUT: Blank</li> <li>• LEVEL: Battery level and Battery voltage is displayed.</li> </ul>
<b>Low battery warning:</b> Battery is almost empty.		<ul style="list-style-type: none"> <li>• OUTPUT: Shows power draw</li> <li>• LEVEL: Flashing battery level and voltage (10.5V +/- 0.5V)</li> <li>• WARNING: "LOW BATTERY" warning is flashing with beeping sound</li> </ul>
<b>Low battery shutdown:</b> Battery is empty.	LCD screen is off (unit is shut down)	At (9.5V +/- 0.5V) LCD and Inverter turns OFF to protect the battery from over-discharge.
<b>Overload:</b> Excessive Inverter load.		<ul style="list-style-type: none"> <li>• OUTPUT: Blank; the Inverter has shut down.</li> <li>• LEVEL: Shows current battery level and voltage</li> <li>• WARNING: "OUTPUT OVERLOAD" Warning flashes with beeping sound.</li> <li>• REMEDY: Check wattage of connected devices to make sure they do not exceed the rated output of 1440W. Higher wattage loads will run for short periods until the overload or over heat protection.</li> </ul>
<b>Over Heat:</b> Inverter temperature exceed due to poor ventilation or excessive load		<ul style="list-style-type: none"> <li>• OUTPUT: Blank, the Inverter has shutdown.</li> <li>• LEVEL: Shows current battery level and voltage</li> <li>• WARNING: "OVER HEAT" Warning flashes with beeping sound</li> <li>• REMEDY: Check ventilation openings, surrounding area and room temperature to ensure proper airflow.</li> </ul>

**Over Voltage:** The battery voltage is excessively high



- LEVEL: Flashing battery level and voltage (16V +/- .5V)
- WARNING: "OVER VOLTAGE" warning is flashing with beeping sound
- REMEDY: The inverter protects itself from high voltages by shutting down. Higher voltage external batteries or chargers can raise the battery voltage. Check external inputs.

## Specifications

### Electrical Specifications

#### Output Specifications

Continuous output power	1440 W
Surge power (momentary)	2880 W
Output voltage (nominal)	115 VAC ± 10%
Output frequency	60 Hz
Output wave form	Modified sine wave
UPS Transfer time	≤ 20 millisecond
Surge suppression	Yes
Inverter on (no-load current draw)	< 0.8 A (battery drain)
Charging time	24 hours for an empty battery

#### DC Specifications

Internal battery type	Sealed lead acid
Internal battery capacity	55 Amp-Hour (660 Watt-Hour)
Internal battery voltage	12 VDC (nominal)
Low battery alarm	10.5 (+/- 0.5) VDC
Low battery shutdown	9.5 (+/- 0.5) VDC
Charging current (built-in charger)	6 ADC maximum
Accessory socket	12VDC (nominal), 20A
USB Ports	2 ports: 5V, 2.1A each

#### Solar Charge Controller Specifications

Solar panel compatibility	12V nominal, open circuit voltage ≤ 20V, wattage ≤ 100W
Solar controller type	PWM
Solar connector	Anderson Powerpole PP15-45
Protections	Reverse connection, short-circuit, reverse charging, under voltage

### General Specifications

Operating/Storage temperature	32° to 104° F (0° to 40° C) / -4° to 104° F (-20° to 50° C)
Dimensions (L × W × H)	19.9 × 8.9 × 12.8" (50.5 × 22.6 × 32.4 cm)
Weight	56.2 lb (25.5 kg)
Tested to comply with	UL2743; FCC part 15; BC (CEC); DOE

NOTE: All specifications are subject to change without notice.

## Recycling

Battery-Biz is committed to environmental responsibility and recommends that electronic devices be disposed of properly. Please contact your local city offices for information on recycling and disposal programs for e-waste.

For instructions on how to recycle this product visit <http://www.cal2recycle.org>.

## Contacting Customer Support

If you experience any problems or have any questions regarding your product, free technical support is available. Prior to calling, please review the technical support tips below.

Call from a phone where you have access to your mobile device

- Be prepared to provide the following information:
- Name, address and telephone number
  - Name of the product
  - Make and model of your device
  - Symptoms of the problem(s) and what led to them
  - Proof of Purchase

Technical Support is available by telephone:  
U.S. and Canada (805) 437-7777

Written inquires should be directed to:  
Battery-Biz Inc.  
Phase 2 Energy Product Inquiry  
1380 Flynn Road, Camarillo, CA 93012, USA

Email Inquiries should be sent to our customer service email: [info@phase2energy.com](mailto:info@phase2energy.com)

## Warranty And Returns

### Limited Warranty

This product (Product) is warranted (Limited Warranty) by Battery-Biz Inc. (Distributor) against defects in material and workmanship under normal use and service to the original purchaser (Purchaser) for a period of 2 (two) years (Warranty Period) from the original date of purchase. The Limited Warranty does not extend to any subsequent owner or other transferee of the Product. Purchaser shall retain the dated sales receipt as evidence of proof and date of purchase as it will be required for any warranty claim or service. In order to keep the Limited Warranty in effect, the Product must have been handled and used as described in the instructions accompanying this Limited Warranty. The Limited Warranty does not cover any damage due to accident, improper storage, improper installation, modifications, unauthorized repair, normal wear and tear, failure to observe product specifications or safety warnings, force majeure, misuse, abuse or negligence. This Limited Warranty shall be null and void if Product's label(s) have been defaced, altered, or removed.

### Disclaimer Of Warranty

The Limited Warranty described herein is Purchaser's sole remedy. To the extent permitted by law, Distributor disclaims all other implied or express warranties on Product including all warranties of merchantability and/or fitness for any particular purpose.

### Remedies Under Warranty

With respect to a defective Product during the Warranty Period, Distributor in its sole and absolute discretion, will either: (a) repair or replace such Product (or the defective part) free of charge or (b) refund the purchase price of such Product. Distributor will pay for shipping and handling fees to return the repaired or replacement product to the Purchaser during the first three years of the Warranty Period.

### Limitation Of Liability

Except to the extent of repairing or replacing this product as expressly stated in the limited warranty described herein, the manufacturer and distributor shall not be liable for any damages, whether direct, indirect, incidental, special, consequential, exemplary, or otherwise, including lost revenues, lost profits, loss of use of software, loss or recovery of data, rental of replacement equipment, downtime, damage to property, and third-party claims, arising out of any theory of recovery, including statutory, contract or tort. Notwithstanding the term of any limited or implied warranty, or in the event that any limited warranty fails of its essential purpose, in no event will the manufacturer's and distributors entire liability exceed the purchase price of this product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages so the above limitations or exclusions may not apply to you. This limited warranty gives you specific legal rights. You may have other rights which vary from state to state and province to province.

In order to be considered for coverage under this Limited Warranty, all warranty returns of Product to Distributor must include (1) a copy of the original receipt for the purchase of Product, (2) a letter from Purchaser referencing the Return Merchandise Authorization number issued by Distributor to Purchaser with a description of the problem, and (3) Purchaser's contact information including phone number and shipping address. Purchaser is responsible for the cost of the warranty return shipping and handling as well as any related claims that may arise.

## FCC Information to the User

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 the 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.

## Product Registration



For complete warranty coverage, please register your product within fourteen days of purchase.

**Visit [Phase2Energy.com/Register](http://Phase2Energy.com/Register)**

or scan the QR code to register.