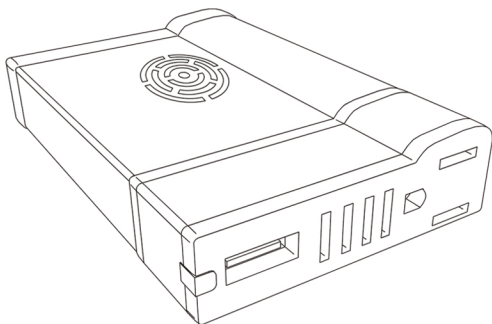




150 Watt Power Inverter *with USB Port*



Owner's Guide

Welcome

This PowerBright product has been carefully engineered and manufactured to give you dependable operation. Please read this manual thoroughly before operating your new PowerBright product, as it contains the information you need to become familiar with its features and obtain the performance that will bring you continued enjoyment for many years. Please keep this manual on file for future reference.

About PowerBright Inverters

PowerBright, an innovator in portable inverter design, has developed a new line of power inverters with the highest surge capability in the industry. These extremely advanced, microprocessor controlled units run cooler and more reliable than any in their class. They also boast the highest efficiency available (up to 90%), which translates into longer running time and extended battery life.

We hope you enjoy your new PowerBright inverter.

Important Safety Information

Misusing or incorrectly connecting the PowerBright inverter may damage the equipment or create hazardous conditions for users. Read the following safety instructions and pay special attention to all Caution and Warning statements in the guide.

Warnings identify conditions that may result in personal injury or loss of life.

Cautions identify conditions or practices that may damage the unit or other equipment.

Warnings and Cautions

WARNING

Keep children away from the PowerBright inverter. The inverter generates the same potentially lethal AC power as a normal household wall outlet.

WARNING: Temperature

The PowerBright inverter housing may become uncomfortably warm, reaching 140° F (60° C) under extended high power operation. During operation, keep it away from materials that may be affected by high temperatures.

Do not use the PowerBright inverter in the presence of flammable fumes or gases, such as in the bilge of a gasoline powered boat, or near propane tanks. Do not use the PowerBright inverter in an enclosure containing automotive-type, lead-acid batteries. These batteries, unlike sealed batteries, vent explosive hydrogen gas, which can be ignited by sparks from electrical connections.

WARNING: Shock hazard

Use caution when inserting an AC plug into the three-prong AC outlet. The prongs of an AC plug can become bent from misuse. If an AC plug is improperly inserted into the AC outlet, a bent prong can slip outside the inverter and become a shock hazard.

Grip the inverter carefully when inserting or removing an AC plug. Keep your fingers clear of the AC outlet. Ensure that your fingers do not contact the prongs of an AC plug when the plug is partially inside the inverter.

CAUTION: Output non-sinusoidal

Some chargers for small nickel-cadmium batteries can be damaged if connected to the PowerBright inverter. Do not use the inverter with the following appliances:

- Small battery-operated appliances like rechargeable flashlights, some rechargeable shavers, and night lights that are plugged directly into an AC receptacle to recharge.
- Battery chargers used in hand power tools. These chargers display a warning label stating that dangerous voltages are present at the charger battery terminals.

CAUTION

Do not connect live AC power to the PowerBright inverter's AC outlets. This will damage the inverter, and the damage is not covered by warranty. Do not connect any AC load that has its neutral conductor connected to ground to the PowerBright inverter.

Additional Safety Guidelines

- Do not insert foreign objects in the PowerBright inverter outlets or other openings.
 - Never connect the inverter to power utility AC distribution wiring.
 - Do not use the PowerBright inverter in temperatures over 100° F (40° C).
 - Do not expose the PowerBright inverter to water, rain, snow, or spray.
- Failure to follow these safety guidelines may cause personal injury and/or damage to the PowerBright inverter. It may also void your product warranty.

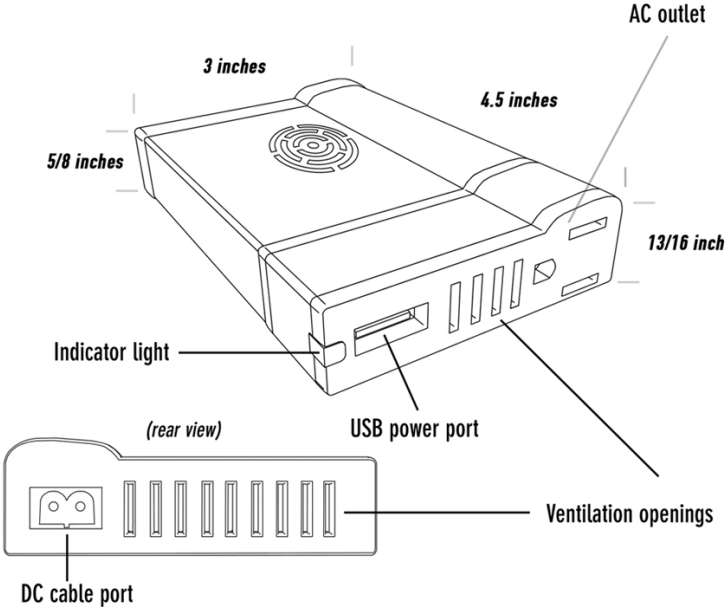
Safety Features

These advanced safety features are built into the PowerBright inverter:

- Electronic overload protection with automatic shutdown
- Low battery voltage shutdown
- High-input voltage protection with automatic shutdown
- Overheat protection with automatic shutdown
- Output short circuit protection.

INVERTER FEATURES

Figure 1 Features And Accessories



Using the Inverter

The PowerBright inverter is capable of powering continuously most 120 V AC products that use 130 W or less. The PowerBright inverter can also power or charge most consumer electronics that have USB power ports.

The PowerBright inverter's AC output waveform, called "modified sine wave," is designed to function similarly to the sine wave shape of utility power.

Using the DC Cable with Cigarette Lighter Plug and airline adapter

1. Plug the DC cable into the DC cable port on the PowerBright inverter.
2. Insert the cigarette lighter plug into the 12 V outlet.
3. Plug the device you want to operate into the PowerBright inverter.
4. Press the ON/OFF button.
5. When the power inverter is not in use, unplug it from the 12 V outlet to prevent slight discharge of the battery.

CAUTION: Reverse polarity damage

When plugging in the DC cable, ensure that the plug aligns with the DC cable port. Failure to do so will result in reverse polarity and a blown fuse.

PROBLEM: AC product will not operate, red FAULT light ON.

Possible cause

AC product(s) connected are rated at more than the inverter's continuous power rating; overload shutdown has occurred.

AC product is rated less than the inverter's continuous power rating; high starting surge has caused overload shutdown.

Battery is discharged.

The inverter has overheated due to poor ventilation and has shut down.

Remedy

Use a product with a power rating less than the inverter's continuous power rating.

Product exceeds inverter's surge capability. Use a product with starting surge power within the inverter's capability.

Recharge battery.

Unplug inverter from DC socket and allow to cool for 15 minutes.
Remove objects covering unit. Move the inverter to a cooler place.
Reduce load if continuous operation is required. Restart.

Inverter Operation

1. When properly connected to a 12 volt outlet, and when the ON/OFF switch is in the ON position, the light will glow blue, indicating that the PowerBright inverter is ready.
2. Plug the product(s) you want to operate into the AC outlet or USB port and switch them on (if necessary)

Operating Guidelines

- As the battery is used, its voltage begins to fall. When the PowerBright inverter senses that the voltage at its DC input has dropped to 10.5 V, the inverter automatically shuts down and the light glows red, indicating a fault. This prevents the battery from being damaged. Turn off any devices that the PowerBright inverter is powering.

Important: Vehicle batteries are designed to provide brief periods of very high current needed for engine starting. They are not intended for constant deep discharge. Regularly operating the PowerBright inverter from a vehicle battery until low-voltage shutdown occurs will shorten the life of the battery.

- If an AC product rated higher than 150 W is plugged into the PowerBright inverter, the inverter will shut down. The red fault light comes on.
- If the PowerBright inverter exceeds a safe operating temperature, due to insufficient ventilation or a high-temperature environment, it automatically shuts down. The red fault light comes on.
- Should a defective battery charging system cause the battery voltage to rise to dangerously high levels, the PowerBright inverter automatically shuts down. The red fault light comes on.
- In the event of an overload, low battery voltage or overheating, the PowerBright inverter automatically shuts down.

CAUTION

Although the PowerBright inverter incorporates protection against over-voltage, it may still be damaged if the input voltage exceeds 16 V.

Battery Operating Time

Operating time will vary depending on the charge level of the battery, its capacity and the power level drawn by the particular AC load, USB load, or combination of both. With a typical vehicle battery and a 130 W load, an operating time of 2 to 2.5 hours or more can be expected.

When using a vehicle battery as a power source, it is strongly recommended to start the vehicle every hour or two to recharge the battery before its capacity drops too low. The PowerBright inverter can operate while the engine is running, but the normal voltage drops that occurs during starting of the engine may trigger the inverter's low voltage shutdown feature.

Interference with Electronic Equipment

Generally, most AC products operate with the PowerBright inverter just as they would with household AC power.

Below is information concerning two possible exceptions.

Buzzing sound in audio systems and radios

Some inexpensive stereo systems and AM-FM radios have inadequate internal power supply filtering and “buzz” slightly when powered by the PowerBright inverter. Generally, the only solution is an audio product with a higher quality filter.

Television interference

The PowerBright inverter is shielded to minimize its interference with TV signals. However, with weak TV signals interference may be visible in the form of lines scrolling across the screen. The following should minimize or eliminate the problem:

- Increase the distance between the PowerBright inverter and the TV, antenna and cables.
- Adjust the orientation of the PowerBright inverter, television, antenna and cables.
- Maximize TV signal strength by using a better antenna and use shielded antenna cable where possible.

Troubleshooting

PROBLEM: AC product will not operate, no inverter lights are ON.

Possible cause

Battery is defective. Check battery and replace if required.

Remedy

Loose connections. Check connections.

PROBLEM: Measured inverter output is too low.

Possible cause

Standard “average reading” AC voltmeter used to measure output voltage, resulting in an apparent reading 5 to 15 V too low.

Remedy

Inverter’s “modified sine wave” output requires “true RMS” voltmeter for accurate measurements.

Battery voltage is too low.

Recharge battery.

Specifications are subject to change without notice.

AC Power Output USB Power Output

AC output voltage (nominal)	120 V AC
Continuous AC output power	130 W
Peak AC output power	150 W (20 minutes)
Maximum AC output surge power	260 W
AC output frequency	60 ± 1 Hz
AC output waveform	Modified sine wave
DC output voltage	5 V DC
DC output current (max.)	0.5 A DC

DC Power Specifications Physical Specifications

DC input voltage range	10.5–15.5 VDC
Battery drain with no AC load (at 12 V input)	<0.2 A
Efficiency (maximum)	90%
Low battery shutdown point (nominal)	10.5 V
High battery shutdown point (nominal)	15.5 V
Ambient operating temperature range	0 °C–40 °C (32 °F–104 °F)
Dimensions (L × W × H)	4 1/2 × 3 × 13/16 in. (114 × 77 × 20 mm)
Weight	0.39 lb. (175 g)

Warranty

What does this warranty cover? This Limited Warranty is provided by PowerBright and covers defects in workmanship and materials in your PowerBright inverter. This warranty period lasts for 1 year from the date of purchase at the point of sale to you, the original end user customer. You require proof of purchase to make warranty claims.

What will PowerBright do? PowerBright will, at its option, repair or replace the defective product free of charge, provided that you notify PowerBright of the product defect within the Warranty Period, and provided that PowerBright through inspection establishes the existence of such a defect and that it is covered by this Limited Warranty.

PowerBright will, at its option, use new and/or reconditioned parts in performing warranty repair and building replacement products. PowerBright reserves the right to use parts or products of original or improved design in the repair or replacement. If PowerBright repairs or replaces a product, its warranty continues for the remaining portion of the original Warranty Period or 90 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of PowerBright.

PowerBright covers both parts and labor necessary to repair the product, and return shipment to the customer via a PowerBright selected non-expedited surface freight within the contiguous United States and Canada. Alaska and Hawaii are excluded. Contact PowerBright Customer Service for details on freight policy for return shipments outside of the contiguous United States and Canada.

How do you get service?

If your product requires troubleshooting or warranty service, contact your dealer.

If you are unable to contact your dealer, or the dealer is unable to provide service, contact PowerBright directly at:

Phone: 1-866-295-6775

Website: www.PowerBright.com

Direct returns may be performed according to the PowerBright Return Material Authorization Policy described in your product manual. For some products, PowerBright maintains a network of regional Authorized Service Centers. Call PowerBright or check our website to see if your product can be repaired at one of these facilities.

What proof of purchase is required? In any warranty claim, dated proof of purchase must accompany the product and the product must not have been disassembled or modified without prior written authorization by PowerBright.

Proof of purchase may be in any one of the following forms:

- The dated purchase receipt from the original purchase of the product at point of sale to the end user, or
 - The dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status, or
 - The dated invoice or purchase receipt showing the product exchanged under warranty

What does this warranty not cover? This Limited Warranty does not cover normal wear and tear of the product or costs related to the removal, installation, or troubleshooting of the customer's electrical systems. This warranty does not apply to and PowerBright will not be responsible for any defect in or damage to:

- a) The product if it has been misused, neglected, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use or use in an unsuitable environment;
- b) the product if it has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the PowerBright product specifications including high input voltage from generators and lightning strikes;
- c) the product if repairs have been done to it other than by PowerBright or its authorized service centers;
- d) the product if it is used as a component part of a product expressly warranted by another manufacturer;
- e) the product if its original identification (trade-mark, serial number) markings have been defaced, altered, or removed.

Warning: Limitations On Use

Please refer to your product manual for limitations on uses of the product.

SPECIFICALLY, PLEASE NOTE THAT THE POWERBRIGHT INVERTER SHOULD NOT BE USED IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, POWERBRIGHT MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING THE USE OF THE POWERBRIGHT POWERBRIGHT INVERTER IN CONNECTION WITH LIFE SUPPORT SYSTEMS OR OTHER MEDICAL EQUIPMENT OR DEVICES.

Please note that the PowerBright inverter is not intended for use as an uninterruptible power supply and PowerBright makes no warranty or representation in connection with any use of the product for such purposes.

Return Material Authorization Policy

Before returning a product directly to PowerBright you must obtain a Return Material Authorization (RMA) number and the correct factory "Ship To" address. Products must also be shipped prepaid. Product shipments will be refused and returned at your expense if they are unauthorized, returned without an RMA number clearly marked on the outside of the shipping box, if they are shipped collect, or if they are shipped to the wrong location.

When you contact PowerBright to obtain service, please have your instruction manual ready for reference and be prepared to supply:

- The serial number of your product
- Information about the installation and use of the unit
- Information about the failure and/or reason for the return
- A copy of your dated proof of purchase

Return Procedure

1. Package the unit safely, preferably using the original box and packing materials. Please ensure that your product is shipped fully insured in the original packaging or equivalent. This warranty will not apply where the product is damaged due to improper packaging.

2. Include the following:

- The RMA number supplied by PowerBright clearly marked on the outside of the box.
- A return address where the unit can be shipped. P.O. boxes are not acceptable.
- A contact telephone number where you can be reached during work hours.
- A brief description of the problem.

3. Ship the unit prepaid to the address provided by your PowerBright customer service representative.

If you are returning a product from outside of the USA or Canada

In addition to the above, you **MUST** include return freight funds and are fully responsible for all documents, duties, tariffs, and deposits.

