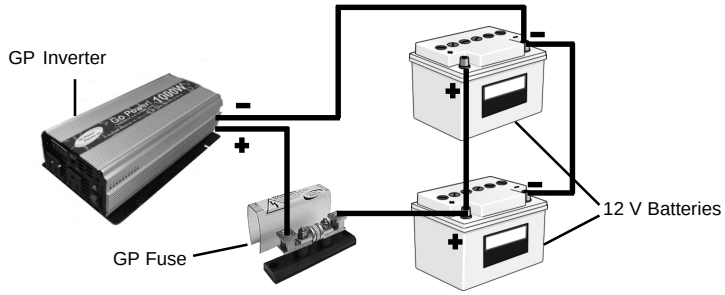
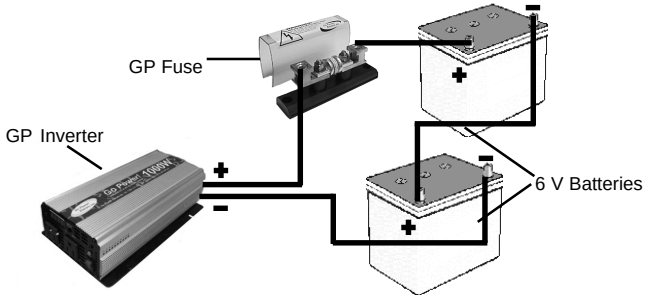
Connection Diagrams



*Installation using two 12 volt batteries.



*Installation using two 6 volt batteries.

Go Power! Manual

GP-1000 Inverter

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8. Maintenance

Very little maintenance is required to keep your inverter operating properly. You should clean the exterior of the unit periodically with a dry cloth to prevent accumulation of dust and dirt. At the same time, tighten the screws on the DC input terminals.

9. Warranty

1. Go Power! warrants this Go Power! modified sine wave inverter for a period of one (1) year from the date of sale. This warranty is valid against defects in materials and workmanship for the one (1) year warranty period. It is not valid against defects resulting from, but not limited to:

- Misuse and/or abuse, neglect, or accident.
- Exceeding the unit's design limits.
- Improper installation, including, but not limited to, improper environmental protection and improper hook-up.
- Acts of God, including lightning, floods, earthquakes, fire, and high winds.
- Damage in handling, including damage encountered during shipment.

2. This warranty shall be considered void if the warranted product is in any way opened or altered. The warranty will be void if any eyelet, rivets, or other fasteners used to seal the unit are removed or altered, or if the unit's serial number is in any way removed, altered, replaced, defaced or rendered illegible.

General Warranty Issues

1. Go Power! cannot assume responsibility for damages to any system components used in conjunction with Go Power! products, nor for claims of personal injury or property damage resulting from the use of Go Power! products or the improper operation thereof or consequential damages arising from the products or use of the products.
2. Go Power! cannot guarantee compatibility of its products with other third-party components used in conjunction with Go Power! products, including, but not limited to, solar modules, batteries, and system interconnects, and such loads as inverters, transmitters, and other loads which produce "noise" or electromagnetic interference, in excess of the levels to which Go Power! products are compatible.
3. The purchaser's exclusive remedy for any and all losses or damages resulting from the date of sale of this product including, but not limited to, any allegations of breach of warranty, breach of contract, negligence or strict liability, shall be limited, at the option of Go Power!, to either the return of the purchase price or the replacement of the particular product for which claim is made and proved. In no event shall Go Power! be liable to purchaser or purchaser's customers or to anyone else for any punitive, special, consequential, incidental or indirect losses or damages resulting from the sale of the product, whether based upon loss of goodwill, lost profits, work stoppages, impairments of other goods, breach of contract, or otherwise.
4. Go Power! does not guarantee this inverter will work with every possible load even if those loads are rated within the power rating of the inverter. Go Power! does not warrant or guarantee the workmanship performed by the customer or any third party installer. Due to the aforementioned load incompatibilities and other extraneous circumstances Go Power! will only consider warranty for an inverter that fails to operate all properly rated loads connected directly to the inverter outlet.
5. This warranty supersedes all other warranties and may only be modified by a statement in writing, signed by Go Power!.
7. Warranty terms effective as of July 4, 2005.

- Move the television as far away from the power inverter as possible.
- Keep the cables between the battery and the power inverter as short as possible and twist them together with about 2 to 3 twists per foot. This minimizes radiated interference from the cables.

7.2 Troubleshooting guide

Possible Cause	Problem and Symptoms	Solution
Using standard voltmeter	Low AC output voltage 95-105 VAC.	Use true RMS averaging meter.
Overload	No output voltage, LED indicator is orange.	Turn off. Reduce load, turn on.
Low DC input voltage Inverter switched off. No power to inverter.	No output voltage, LED indicator is orange.	Recharge battery, check connections and cable.
Internal operating temperature too high.	No output voltage, LED indicator is orange	Allow inverter to cool off. Reduce load if continuous operation required.
Internal circuitry failure	No output voltage, no lights.	Have original sales vendor technician check and replace if under warranty.
Reverse DC polarity connection	No output voltage, no lights.	Reverse DC polarity connection is not covered under warranty
High input voltage	No output voltage, voltage indication above 15V.	Make sure that inverter is connected to 12 V battery. Check regulation of charging system.
Poor DC wiring, poor battery condition.	Low battery alarm on all the time, LED indicator is orange.	Use proper cable and make solid connections. Use new battery if batteries are poor.

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1. Introduction

The Go Power! Inverter series provides mobile power for people on the go. Run standard AC appliances wherever you travel. Silent, lightweight and simple to use, Go Power! Inverters can be used in a wide range of applications including remote homes, RVs, boats and long haul trucks. It will operate most televisions and VCR's, personal computers and small appliances including drills, sanders, grinders, mixers, blenders and microwaves.

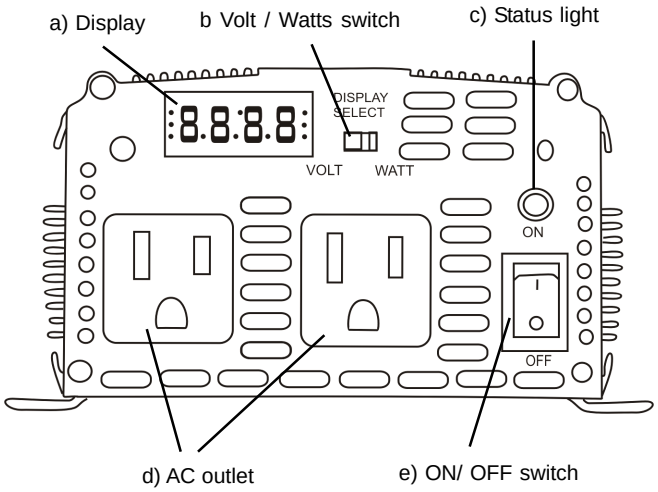
To get the most out of your power inverter, it must be installed and used properly. **Please read the instructions in this manual before installing and using your inverter.**

2. Specifications

Model No.	GP-1000-12 V
Continuous Output Power	1000 W
Surge Rating	1300 W
Output Waveform	Modified Sine Wave
Output Voltage	115 VAC RMS +5%/-10%
Output Frequency ±1%	60 Hz
Input Voltage	10-15 VDC
Efficiency	80 - 90%
No Load Current Draw	0.2 A
Protection	Overload, overtemperature, overvoltage, and low voltage
Low Battery Alarm ± 2%	10.5 V
Low Battery Shut-Down ± 2%	10.0 V
Operating Temperature Range	0 - 40°C / 32°F - 104°F
Storage Temperature Range	-30°C - 70°C / -22°F - 158°F
Cooling	Thermostatically controlled fan
AC Receptacle	2
Dimensions (LxWxH) mm	284 x 147 x 71
inches	11.2 x 5.8 x 2.8
Weight kg / lbs	2.0 / 4.2
Warranty	1 year
Inverter Install Kit	GP-DC-Kit 2

3. Features

3.1 Front view – GP-1000



a) Display:
Volts / Watts display.

b) Volt / Watt Switch:

c) Status light:

d) AC outlet:
Outlet sockets available: North America

e) ON/ OFF switch:
Leave in the OFF position during installation.

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6.2 Overload

The status LED will be orange and will come on when the power inverter has shut itself down because its output circuit has been short circuited or drastically overloaded. Switch the ON/OFF switch to OFF, correct the fault condition, and then switch the ON/OFF switch back to ON.

Some induction motors used in refrigerators, freezers, pumps and other motor operated equipment require very high surge currents to start. The power inverter may not be able to start some of these motors, even though their rated current draw is within the power inverter.

If the motor refuses to start, observe the battery voltage indicator while trying to start the motor. If the battery voltage indicator drops below 11 volts while the inverter is attempting to start the motor, this may be why the motor will not start. Make sure that the battery connections are good and that the battery is fully charged. If the connections are good and the battery is charged, but the voltage still drops below 11 volts, you may need to use a larger battery.

6.3 Input voltage

The power inverter will operate from input voltage ranging 10 V – 15 V. If the voltage drops below 10.7 V, an audible low battery warning will sound and the status LED will be orange. The power inverter will shut down if the input voltage drops below 10 V. This protects your battery from being over discharged.

The power inverter will also shut down if the input voltage exceeds 15 V. This protects the inverter against excessive input voltage. Although the power inverter incorporates protection against overvoltage, it may still be damaged if the input voltage is allowed to exceed 20 V.

7. Troubleshooting

7.1 Common problems

a) Buzz in audio systems
Some inexpensive stereo systems will emit a buzzing noise from their loud speakers when operated from the power inverter. This is because the power supply in the device does not adequately filter the modified sine wave produced by the power inverter. The only solution is to use a sound system that incorporates a higher quality power supply.

b) Television interference
Operation of the power inverter can interfere with television reception on some channels. If this situation occurs, the following steps may help to alleviate the problem.

- Make sure that the chassis ground lug on the back of the power inverter is solidly connected to the ground system of your vehicle, boat or home.
- Do not operate high power loads with the power inverter while watching television.
- Make sure that the antenna feeding your television provides an adequate ("snow free") signal and that you are using good quality cable between the antenna and the television.

4.6 Grounding

The power inverter has a lug on the rear panel: "Chassis Ground." This is to connect the chassis of the power inverter to the ground. The ground terminals in the AC outlets on the front of the inverter are also connected to the ground lug.

If available, the chassis ground lug should be connected to a ground point, which will vary depending on where the power inverter is installed. In a vehicle, connect the chassis ground to the chassis of the vehicle. In a boat, connect to the boat's grounding systems. In a fixed location, connect the chassis ground lug to earth.

The neutral (common) conductor of the power inverter AC output circuit is not bonded to the chassis ground. Therefore, when the chassis is connected to ground, the neutral conductor will not be grounded.

At no point should the chassis ground and the neutral conductor of the inverter be bonded. Bonding the chassis ground and the neutral conductor of the inverter or connecting the inverter to household AC distribution wiring will damage the unit and void the warranty.

Caution! The negative DC input of the power inverter is connected to the chassis. Do not install the power inverter in a positive ground DC system. A positive ground DC system has the positive terminal of the battery connected to the chassis of the vehicle or to the grounding point.

5. Operation

To operate the power inverter, turn it on using the ON/OFF switch on the front panel. The power inverter is now ready to deliver AC power to your loads. If you are operating several loads from the power inverter, turn them on separately after the inverter has been turned ON. This will ensure that the power inverter does not have to deliver the starting currents for all the loads at once.

5.1 Controls and indicators

The ON/OFF switch turns the control circuit in the power inverter ON and OFF. It does not disconnect power from the power inverter.

When the switch is in the OFF position, the power inverter draws no current from the battery. When the switch is in the ON position but with no load, the power idle current is approximately 1 A (see product specifications for exact current draw).

6. Operating limits

6.1 Overtemp

The status LED will be orange and will come on when the inverter has shut itself down because the inverter has become overheated. The power inverter may overheat because it has been operated at power levels above its rating, or because it has been installed in a location which does not allow it to dissipate heat properly. The power inverter will restart automatically once it has cooled off.

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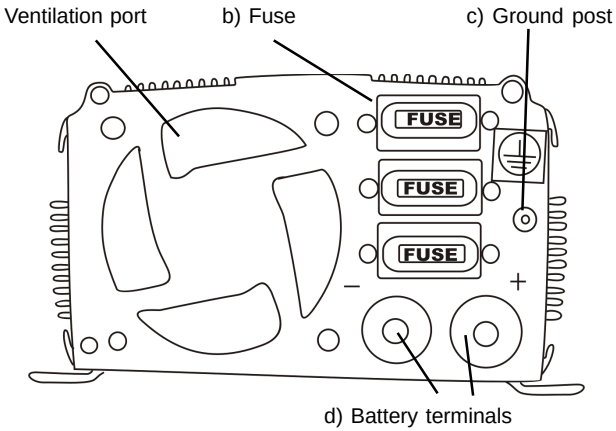
3.1 Rear view – GP-1000



a) Ventilation port:
Do not obstruct, allow at least 1 inch for air flow.

b) Fuse:

c) Ground post:

d) Battery terminals: Connect to 12 V battery or other 12 V power source. Note that "+" is positive, "-" is negative. Reverse polarity connection will blow external fuses and may damage inverter permanently.

Note: Minimum inverter DC cable & DC inverter fuse sizes, see section 4.3 and 4.4.

4. Installation

4.1 Where to install

The power inverter should be installed in a location that meets the following requirements:

a) Dry - Do not allow water to drip or splash on the inverter.

b) Cool - Ambient air temperature should be between 0°C and 40°C (the cooler the better).

c) Ventilated - Allow at least two inches of clearance around the inverter for air flow. Ensure the ventilation openings on the rear and bottom of the unit are not obstructed.

d) Safe - Do not install the inverter in the same compartment as batteries or in any compartment capable of igniting flammable liquids such as gasoline.

e) Inverter should be located within 10 feet of the batteries.

4.1 Hook-up and testing

To hook-up the inverter please follow these guidelines:

Caution! Do not connect this inverter and another AC source (generator or utility power) to the AC wiring or AC loads at the same time. Doing so will destroy the inverter and void the warranty, regardless whether the inverter is switched on or off. If you are using more than one AC source for the AC wiring or AC loads, it is highly recommended that you install an automatic transfer switch (GP-TS), available from Go Power!

1. Unpack and inspect your Go Power! Inverter, check to see that the power switch is in the OFF position. We recommend using DC Install Kits whenever installing a GP Inverter.

2. When attaching the DC inverter cables to the power input terminals on the rear panel of the power inverter. The (+) terminal is positive and (-) terminal is negative. Connect the cables into the terminals by placing the lug connector between the washers and tighten the terminal screw or nut to clamp the wires securely. Ensure connections are tight.

Caution! A reverse polarity connection may permanently damage the inverter. Damage caused by reverse polarity connection is not covered by our warranty.

3. First connect the cable from the negative terminal of the inverter to the negative terminal of the battery. Make a secure connection.

Caution! Loose connections result in excessive voltage drop and may cause overheated wires and melted insulation. Ensure connections are tight.

4. Before proceeding further, carefully check that the cable you have just connected is going from the negative terminal of inverter to the negative output terminal of the power source (battery).

5. Install the inverter fuse into the positive lead. Fuse should be located within 12" of battery. Ensure all connections are tight and secure.

6. Connect the cable from the positive terminal of inverter to the positive terminal of the battery. It is normal to observe a spark during the final connection to the battery. Make a secure connection. Check your polarity.

Caution! This inverter cannot supply power to any AC distribution wiring or AC loads in which the neutral and ground are connected (bonded). Doing so will destroy the unit and void the warranty. If you do not understand neutral to ground bonding then please have a professional install your system for you. See "Grounding" for more information.

7. Set the power switch to the ON position. Check that the power LED is ON, and if not, check your battery bank and the connections to the inverter.

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Warning! You may observe a spark when you make the final battery connection since current may flow to charge capacitors in the power inverter. Do not make this connection in the presence of flammable fumes, as explosion or fire may result.

8. Set the power inverter switch to the OFF position. The power LED light may blink and go dim. The internal alarm may sound momentarily. This is normal. Plug the test load into the AC receptacle on the front panel of the inverter.

9. Set the power inverter switch to the ON position and turn the test load on; the inverter should supply power to the load. If you plan to measure the output voltage of the inverter, a true r.m.s. meter must be used for accurate readings.

10. Ensure battery interconnect cables are a minimum of #4 gauge wire and a maximum of 10" in length.

4.2 Cables

Cables are not included with the unit.

4.3 DC Kits

Go Power! DC Installation Kits include everything you will need to properly connect your Go Power! Inverter to the batteries.

· GP-2500, GPSW-2000-12 – Use GP Install Kit 4
· GP-1750HD, GPSW-1500-12, GPSW-2000-24 – Use GP Install Kit 3
· GP-1000, GPSW-300, GPSW-600, GPSW-1000, GPSW-1500-24 - Use GP Install Kit 2

4.4 Cables

DC to AC inverters require high amperage to operate properly; connect inverter DC input terminals to battery with heaviest wire available. See chart below:

Max. Watts Out	Approx. Amps Req'd (12 VDC)	Wire Gauge
300 W	30 A	#10
600 W	60A	#6
1000 W	100 A	#4
1500 W	150 A	#2
1750 W	175 A	#2
2500 W	250 A	2/0

*Cable length is not recommended to exceed 10 feet in length.

4.5 Inverter fuse

A class "T" inverter fuse should be included in all installations.

- GP-2500 - 300 amp fuse
- GP-1750HD – 200 amp fuse
- GP-1000 – 110 amp fuse