

Model:

SW150-12, SW650-24
 SW350-12, SW1200-24
 SW650-12, SW1800-24
 SW1200-12, SW3000-24
 SW1800-12, SW3000-12

Traveller Series 240VAC Sine Wave Power Inverter

Operating Instructions

Please read these instructions before use

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**Trouble Shooting:**

Symptom	Possible Cause	Solution
AC output will not stay ON	Some loads may be too small to hold inverter ON	Increase size of load
Inverter shuts down due over temperature	Insufficient ventilation around inverter Ensure true power rating of appliance (including power factor) is less than inverter output rating	Improve ventilation Check ratings and reduce with different appliance
Inverter shuts down when trying to start a load	Possible surge from motor starting causing shut down	Check that battery voltage is within specification. If voltage drops excessively when starting, batteries size may have to be increased. Or load is too large for inverter.
Load LED flashes	Overload	Reduce load. Remove load.
Under Voltage LED flashes	Low input voltage	Check battery status. Re-charge if required.
Over Temp LED flashes	Thermal shutdown	Improve ventilation.
Over Voltage LED flashes	Excessive input voltage	Check input voltage. Reduce if too high.
TV channel interference on some channels	Connection of chassis ground lug at rear of inverter needs attention. High power loads being used during TV viewing. Ensure TV antenna providing a good signal. TV is close to power inverter. DC power cables too long causing excessive radiated interference.	Check chassis ground lug is a solid connection. Do not use high power loads. Check antenna wiring and connection. Move TV away from power inverter. Shorten cables if necessary and twist them together with approx. 2 to 3 twists per foot.

WARNING! - Do not open or disassemble inverter. Attempting to service the unit yourself may result in a risk of electrical shock or fire.

Warranty Conditions: Our products come with guarantees that cannot be excluded under the Australian Consumer Law. The customer is entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. The customer is also entitled to have the products repaired or replaced if the products fail to be of acceptable quality and the failure does not amount to a major failure. GSL Electronics (GSL) warrants that its products will, under normal use and service, be free of defects in material and workmanship for a period of two (2) years from the date of the original purchase by the customer as marked on the customer's original invoice. Please refer to our website for full warranty and return information.

Features include:

- Microprocessor-based design with accurate and stable frequency
- Capable of driving inductive loads, i.e. electric tools and appliances
- Operates microwave ovens
- Auto Load Sensing
- Low Battery Shut Down
- Input voltage (12V Models 10-15VDC) (24V Models 21-30VDC)
- Output voltage 200~240VAC, Pure Sine Wave @ 50~60Hz
- Low harmonic distortion
- Quick response, very efficient stand-by circuit
- No noise
- Compact, rugged and designed with 83-90% efficient
- Aluminium chassis for harsh environments and easily mounted

Safety Instructions:

WARNING! - Professional electrical / renewable energy installer should perform the installation, as dangerous voltages can be present. Before installing and using your inverter, read the Installation Instructions!

Explosive Gas Precautions:

This equipment contains components that can produce arcs or sparks. To prevent fire or explosion do not install in compartments containing batteries or flammable materials, or in locations that require ignition-protected equipment. This includes any space containing petrol-powered machinery, fuel tanks, joints or other connections between components of the fuel system.

Precautions When Working With Batteries:

- If battery acid contacts skin or clothing, wash immediately with soap and water. If acid gets into eyes, immediately flood eyes with running cold water for at least 20 minutes and get medical attention immediately. **NEVER** smoke, allow a spark or flame in the vicinity of batteries or engine. Do not drop a metal tool on the battery as the resulting spark or short-circuit of the battery may cause an explosion.

- Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery produces a short-circuit current, high enough to weld a ring or similar metal, causing a severe burn.

WARNING! - Shock Hazard! Before proceeding further, ensure that the Inverter is NOT connected to any Batteries, and that all wiring is disconnected from any electrical Sources. Do not connect the Output Terminals of the Inverter to an incoming AC sources.

Before installing your inverter, please make sure that you have appropriately sized batteries. A battery that is too small in capacity will not allow the inverter to perform to its full specification. The DC cabling must be connected to the correct polarity terminals of the battery bank. (Red = Positive, Black = Negative).

DO NOT extend the DC cable length to the inverter unless you are prepared to increase the diameter of the cable. If this is necessary consult your supplier or installer for advice.

WARNING! - Reverse polarity connection will blow the internal fuse and may damage the inverter permanently.

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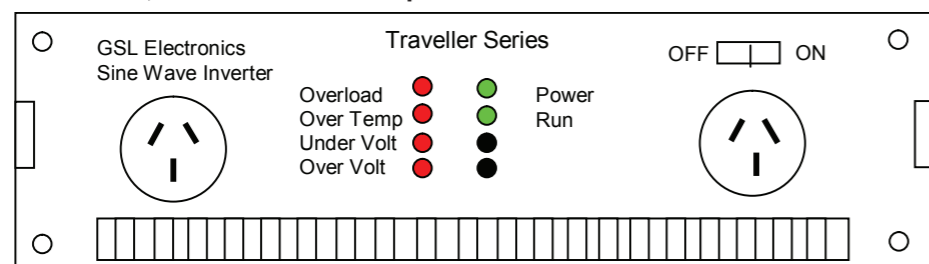
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Front view, main functions & Operation:



1. Controls and indicators (All models):

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

2. Over voltage indicator (except SW150):

The over voltage LED indicates that the power inverter has shut itself down because its input voltage higher than the operating voltage.

3. Under voltage indicator (except SW150):

The under voltage LED indicates that the power inverter has shut itself down because its input voltage is lower than operating voltage.

4. Over temp indicator (except SW150):

The over temp LED indicates that the power inverter has shut down because it has become overheated (75°C). The power inverter may overheat because it has been operated at power levels above it's 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.

5. Overload indicator (except SW150):

The overload LED indicates that 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.

Installation

1. *Where to install* - The power inverter should be installed in a location that meets the following requirements:

Dry – Do not allow water to drip or splash on the inverter and in an area free of salt or moisture-laden air.

Temperature – Ambient air temperature should be between 0° and 40°.

Ventilation – Allow at least twenty-five millimeters / one inch of clearance around the inverter for airflow. Ensure the ventilation openings on the rear and bottom of the unit are not obstructed. The installation site should not be susceptible to temperatures in excess of 50°C.

Safety – Do not install in a battery compartment or other areas where flammable fumes may exist, such as fuel storage or engine compartments.

Dust-free – Do not install the inverter in an environment where there are dust, wood particles, metal filings and shavings. These can be pulled into the unit blocking the cooling fans.

Close to battery / batteries – Avoid excessive cable lengths (Mount the inverter between one and two metres from the batteries) but do not install the inverter over or in the same compartment as batteries. Use the recommended wire lengths and sizes. Do not mount the inverter where it will be exposed to the gases produced by the battery. These gases are very corrosive and prolonged exposure will damage the inverter.

2. *Making DC Wiring Connections:* Follow this procedure to connect the battery cables to the DC input terminals on the inverter. Your cables should be as short as possible (ideally, less than 10 feet / 3 metres).

a. Unpack and inspect the power inverter, check to see that the power switch in the OFF position.

CAUTION! - Reversed polarity connections will blow a fuse in inverter and may permanently damage the inverter. Damage caused by a reverse polarity connection is not covered by our warranty.

b. Connect the DC POSITIVE cable to the Positive (POS+) terminal on the battery.

c. Connect the cable to the Positive terminal on the inverter.

d. Connect the DC NEGATIVE cable to the Negative terminal on the inverter.

WARNING! - You may observe a spark when you make this connection. Do not make this connection in the presence of flammable fumes. Explosion or fire may result.

e. Connect the cable to the Negative (NEG-) terminal of the battery. This should be the last connection made. A spark when making this final connection is normal.

WARNING! - Make sure all the DC connections are tight. Loose connections will overheat and could result in a fire hazard.

Testing Unit after Connection:

1. Set the power switch to the ON position. Check the POWER and RUN (flashes when in Stand By mode) indicators on the front panel of the inverter. If the LED is not lit, check the power source and the connections to inverter. The other indicators should be off.

2. Set power inverter switch to the OFF position. The indicator lights may blink and the internal alarm may sound momentarily. Plug the test load into the AC receptacle on the front panel of the inverter. Leave the test load switch off.

3. Set power inverter switch to the ON position and turn the test load on. The inverter should supply power to the load.

4. If you are operating several loads from the power inverter, switch them on separately after the inverter has been switched on.

Auto Load Sensing (SW650, SW1200, SW1800, SW3000):

Our inverter features automatic load sensing, allowing the inverter to wait in Standby mode until an AC load is switched ON. When an AC load appears the inverter will start immediately. This feature conserves valuable battery energy as the inverter uses only about 10% of normal power when in standby mode (standby is indicated by flashing green lamp).

Maintenance:

Helpful Tip to Conserve Battery Power

Should the inverter not be used over an extended period of time, it is recommended that the battery be disconnected from the inverter. This will ensure battery will not be drained over the period of non-usage.

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

WARNING!

Do not open or disassemble inverter. Attempting to service the unit yourself may result in a risk of electrical shock or fire.