

# AC POWER SOURCE



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## DC-AC INVERTERS

MODEL: PSE-1260A

## OWNER'S MANUAL

Please read this manual before operating your inverter.

## WARNING

**PLEASE TAKE THE FOLLOWING PRECAUTIONS. FAILURE TO ABIDE BY THESE REQUIREMENTS WILL VOID THE WARRANTY.**

Never parallel the 115V AC output of the inverter with the output from a generator or the electric mains. **This will instantly burn the inverter.**

Although this inverter has a high input OVER VOLTAGE SHUT DOWN at 15V, input voltages higher than 15V will cause **permanent damage**. Ensure the following when the battery is being charged simultaneously (the output voltage of the charging device will be fed to the inverter):

- Ensure that the charging voltage of the alternator has not been set about 15V.
- Do not use an unregulated solar panel, it's voltage can reach up to 18V on a very cold day. When using regulated solar panel, it's voltage should not be set beyond 15V.
- Do not connect to 24V battery (for 12V inverters).
- Ensure that the voltage of the battery charger does not exceed 15V in any condition.

**Do not reverse the polarity of the input connections. This will permanently damage the inverter.**

**Staple a copy of your bill of sale here. You will need to present your bill of sale to make any required warranty claim.**

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## NOTES:

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## INTRODUCTION

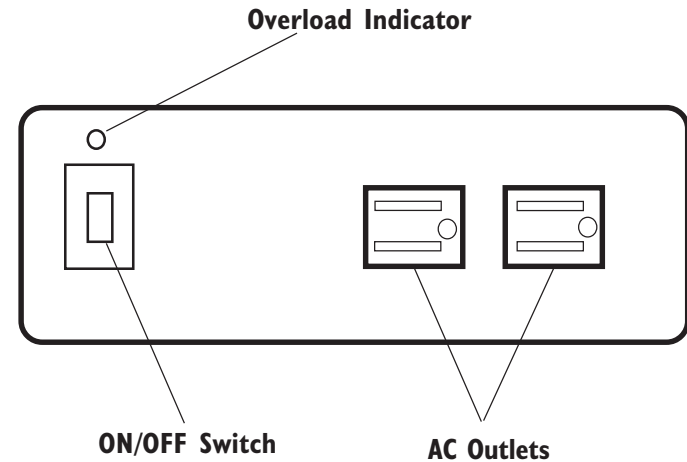
**The Samlex PSE-I260A inverter is a member of the most advanced line of mobile AC power systems available.**

This model is used in a wide range of applications including, remote homes, RV's, power boats, sail boats, and campers. It will operate most televisions and VCR's, personal computers, small appliances and tools such as drills, sanders, grinders, mixers and blenders.

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.

## IDENTIFICATION

### FRONT VIEW

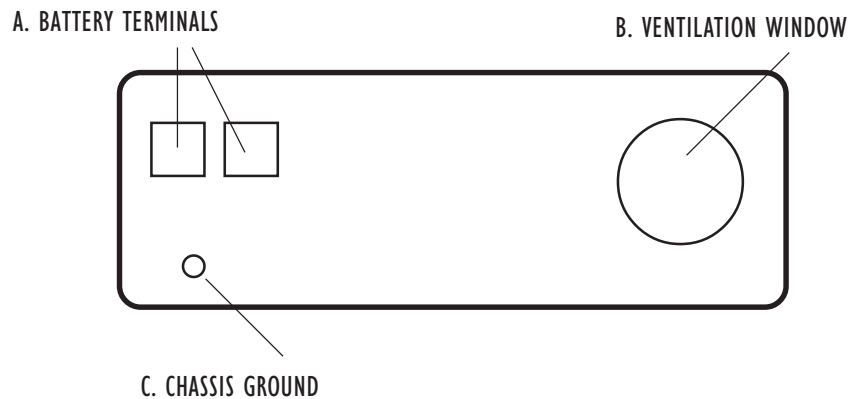


**A. On/Off Switch** Leave the switch in the Off position during installation.

**B. Over Load Indicator** Lights when the inverter shuts down due to overloading. Turn inverter “Off”, remove the cause of overload and turn the inverter “On” to restart.

**C. AC Outlet** Standard North American 3 pin outlet.

## REAR VIEW



**A. Battery Terminals:** Connect 12V battery or other 12 VDC power source “ + ” is positive, “ - ” is negative. Reversing the polarity of the connection will blow the internal fuse and may permanently damage the inverter.

**B. Do not block the Ventilation Window.**

**C. Chassis ground lug:** Connect to earth ground or to vehicle chassis using #8 AWG wire.

**WARNING ! OPERATION OF THE POWER INVERTER WITHOUT A PROPER GROUND CONNECTION MAY RESULT IN AN ELECTRICAL SAFETY HAZARD.**

## MAINTENANCE

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.

## WARRANTY

Samlex warrants this product against defects in materials and workmanship for a period of 12 months from the date of purchase and will, at the option of Samlex, repair or replace any defective power inverter when directly returned to the place of purchase with a copy of the original paid bill of sale. This warranty will be considered void if the unit has suffered any obvious physical damage or alteration either internally or externally and does not cover damage arising from improper use such as plugging the unit into an unsuitable power source, attempting to operate products with excessive power consumption requirements, or use in unsuitable climates.

This is the only warranty and the company makes no other warranties, express or implied, including warranties of merchantability or fitness for a particular purpose.

Repair or replacement are your sole remedies and Samlex shall not be liable for damages whether direct, incidental, special or consequential, even though caused by negligence or other fault.

**Retain your bill of sale.**

**This warranty is validated only upon presentation of your proof of purchase within the given 12 month warranty period.**

## SPECIFICATIONS

### PSE 1260A

Input Voltage Range		10 - 15 VDC
Output Power	Continuous	600 Watts
	Surge	1000 Watts
Output Voltage		115 VAC + 5% - 10%
Output Frequency		60 Hz
Output Wave Form		Modified Sine Wave
Efficiency		85 - 90%
No Load Current Draw		< 0.4A
Low Battery Alarm		10.7 VDC
Low Battery Shut Down		10.0 VDC
Dimensions ( L x W x H )		
	inches	10.25" x 6"x 2.75"
	mm	260 x 150 x 71
Net Weight		1.6 kgs / 3.6 lbs.

## QUICK HOOK-UP AND TESTING

If you would like to quickly hook up the inverter and check it's performance before going ahead with your installation, please follow these guidelines:

1. Unpack and inspect the inverter, check to see that the power switch is in the OFF position.
2. Connect the cables to the power input terminals on the rear panel of the inverter. The red terminal is **positive (+)** and the black terminal is **negative (-)**. Connect the cables into the terminals and tighten the screws to clamp the wires securely.
3. Connect the cable from the negative terminal of the inverter to the negative terminal of the power source. Make a secure connection.

**CAUTION ! Loosely tightened connectors may cause overheated wires and melted insulation.**

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

**CAUTION ! Reverse polarity connection will blow a fuse in the inverter and may cause permanent damage to the inverter. Damage caused by reverse polarity connection is not covered by warranty.**

5. Connect the cable from the positive terminal of the inverter to the positive terminal of the power source. Make a secure connection.

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

6. Set the inverter switch to the ON position, the internal alarm may sound momentarily. This is normal. Plug the test load on. If you plan to measure the output voltage, you must use a true RMS Voltage Meter such as a Fluke 8060A or Triplet 4200. A standard averaging volt meter will not provide an accurate reading.

## INSTALLATION

### I. 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 in the inverter.
- b. **Cool** - Ambient air temperature should be between 0° C and 40° C, the cooler the better.
- c. **Ventilated** - Allow at least one inch 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 storing flammable liquids such as gasoline.

### 2. Cables

DC to AC inverters convert high amperage/low voltage DC power to low amperage/high voltage AC power. To operate properly connect inverter DC input terminals direct to battery with heaviest wire available. See chart below :

Max Watts Out	Approx. Amps Required	Wire Gauge
100W	10 Amps	#18
<b>150W</b>	<b>15 Amps</b>	<b>#14</b>
200W	20 Amps	#12
<b>300W</b>	<b>30 Amps</b>	<b>#10</b>
400W	40 Amps	# 8
<b>600W</b>	<b>60 Amps</b>	<b># 6</b>

## TROUBLESHOOTING GUIDE

PROBLEM & SYMPTOMS	POSSIBLE CAUSE	SOLUTION
<b>Low battery alarm is on all the time. There is output.</b>	Poor DC wiring, poor battery condition.	Use proper wire and make solid connections.
	Battery voltage is below 10.7V.	Use a new, charged battery.
<b>No output voltage. Audible alarm is on and load is in excess of 600 Watts.</b>	Thermal shut-down due to prolonged overload.	Allow the inverter to cool down. Reduce load if continuous operation is required, check fan is working.
<b>No output voltage. Over-temp indicator on and load is less than 600 Watts.</b>	Thermal shut-down due to poor ventilation.	Improve ventilation. Make sure ventilation openings are not obstructed, reduce ambient temperature, check fan is working.
<b>No output voltage, Over-load indicator on.</b>	Short circuit or wiring error.	Check AC wiring short circuit or improper polarity.
	Very high power load.	Remove load.

<b>PROBLEM &amp; SYMPTOMS</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
<b>Low output voltage.</b>	Using average reading voltmeter.	Use true RMS reading volt meter (see page 4 of manual).
<b>Low output voltage.</b>	Overload.	Reduce load.
<b>No output voltage Audible alarm</b>	Low input voltage (<10V).	Recharge battery, check connections and cables.
<b>No output voltage.</b>	Inverter is switched off.	Switch inverter on.
<b>No power to inverter.</b>	Check wiring to the inverter. Internal fuse is open. Reverse DC polarity.	Have a qualified technician check and replace fuse. Have a qualified service technician check and replace fuse.
<b>No output voltage Audible alarm.</b>	High input voltage (>15V).	Make sure that the inverter is connected to 12V battery. Check regulation of charging system.

### **OBSERVE CORRECT POLARITY**

### **3. 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 panel of the inverter are also connected to the ground lug. The chassis ground lug must be connected to a grounding 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 connected to the chassis ground. Therefore, when the chassis is connected to ground, the neutral conductor will also be grounded. This conforms to national electrical code requirements that separately derived AC sources (such as inverters and generators) have their neutral tied to ground in the same way that the neutral conductor from the utility line is tied to ground at the AC breaker panel.

#### **Caution!**

**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.**

#### **Warning!**

**Do not operate the power inverter without connecting it to ground. Electrical shock hazard may result.**

## 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.

### I. 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 inverter draws less than 400mA (12V version) or 230mA (24V version) from the battery.

### 2. Fan control and over temp. alarm and protection

This unit is cooled by a temp. controlled fan and is provided with over temp. alarm and protection circuitry.

Temperature sensing is done from the surface of the Power Transformer T2 located inside the unit. When it's temp reaches more than 40°C, the cooling fan is switched on. **(Note that the fan will not cut in on no load or on light loads as the temp of T2 will be below 40°C).** In case the cooling fan fails or there is overload or the ambient temp. is very high, the cooling will not be adequate and the temp. of T2 will start rising. At around 57°C, an audible alarm will be sounded and at the same time, the power output of the inverter will be shut down. Once T2 cools down to around 47°C, the unit will be reset automatically.

### 3. Over-load indicator

The overload indicator 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.

### Operating limits: Input voltage protection and alarm

The power inverter will operate from input voltage ranging from 10V-15V (12V version) or 20V-30V (24V version). If the voltage drops below 10.7V (12V version) or 21.5V (24V version) an audible low battery warning will sound. The power inverter will shut down if the input voltage drops below 10V (12V version) or 20V (24V version). This protects your battery from being over-discharged.

The power inverter will shut down and also produce an audible alarm if the input voltage exceeds 15V (12V version) or 30V (24V version). This protects the inverter from excessive input voltage.

Although the power inverter incorporates protection against over-voltage, it may still be damaged if the input voltage is allowed to exceed 15V (12V version) or 30V (24V version).

## TROUBLESHOOTING

### I. Common problems

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.
- 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.