



# 400W & 700W MSW POWER INVERTER

Model: PIME400-12 & PIME700-12

## INSTRUCTION MANUAL



IF THIS PRODUCT IS USED IN A VEHICLE, THE USER MUST FOLLOW THE INSTRUCTIONS PROVIDED BY THE VEHICLE BATTERY MANUFACTURER BEFORE USE. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND / OR PROPERTY DAMAGE.

## SAFETY INSTRUCTIONS

Ensure this instruction manual is read fully and understood prior to using the power inverter, paying particular attention to the below WARNING and ATTENTION sections. Failure to do so, may result in personal injury or property damage.

### RETAIN THIS USER MANUAL FOR FUTURE REFERENCE

### WARNING:

To avoid any personal injury, please read the safety instructions below:

- This inverter is not to be used by persons (including children) with reduced physical, sensory, or mental capacities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children being supervised are NOT to play with this appliance.

This product uses a DC 12V power supply as the input source. Please ensure the input voltage and power values are correct before connecting the inverter.

- **Note:** If the inverter is connected to a 6V battery, it will not work. If the inverter is connected to a 24V or higher battery, there is a risk of explosion/damage to the unit.
- Do not expose this product to high environmental temperatures, high humidity, or to moisture/rain/snow.
- Keep away from children: This product has 230-240V AC output.
- Ensure this product is not left plugged into a power source, when not in use.
- Do not use this product near flames or in an explosive environment.
- When using this product, please ensure the reliability of the connection. If the connection is not tight (unreliable), the cable and connection plug may overheat.
- Do not block the air vent of the inverter.
- Do not disassemble this product without authorisation. If maintenance is required, seek the assistance of a qualified or authorised repairer. Improper disassembly and reassembly of this product may result in personal injury, electric shock or fire and will void the product warranty.
- Use of non-recommended or non-standard accessories may cause fire, electric shock or personal injury. Please use the power input or output extension recommended in this manual. Improper use of extension cord may cause fire and electric shock hazard.

## ATTENTION:

- When using this product, please pay attention to the positive and negative terminals of the product. Incorrect connection will cause the fuse to blow out and may cause permanent damage to the Inverter.
- Do not connect electrical appliances that exceed the rated output power of the Inverter. If this does occur, the inbuilt overload protection will stop the Inverter from operating.
- Do not use the Inverter within an engine bay, or enclosed spaces. The Inverter must be used in a well ventilated area.
- Do not use this Inverter to power medical equipment.

## 400W and 700W MSW POWER INVERTER

The Ridge Ryder 400W & 700W Modified Sine Wave (MWS) Power Inverter's have a single AC socket, which delivers 230-240V AC power.

Before installing the Inverter, make sure the main switch is "OFF".

These Inverter's also include automatic protection from low/high voltage input, output overload, internal over temperature and output short circuit. An audible alarm may also sound, identifying specific protection mode engagement. Read more about these safety protections on page 8 & 9.





## USE AND DISPLAY

The green LED indicator will illuminate whenever the Inverter is ON and working. If the red LED is illuminated, the Inverter is in protection mode, or the unit has been damaged. The two USB sockets located on the front panel can be used for charging/powering appliances and devices, such as mobile phones.

### Note:

The output voltage of the Inverter's power supply must be between 11V - 15.5V d.c. The output current must equal the power of the load used.

The current power supply ampere required can be calculated as the load consumed power, divided by 10.

For example:

If an appliance is rated at 150 watts AC, the DC power supply must be able to provide a current value of  $150 / 10 = 15$  Amps.

Please Note: Resistive loads (such as incandescent lamps) are the easiest items to power up with an inverter. Inductive motors (electric motors without brushes) power tools and some televisions may require up to 6 times the consumption rating to power up. We recommend you buy a larger model than you think you'll need (at least 10% to 20% more than your largest load).

CAUTION: ENSURE THE CAPACITY OF YOUR DEVICE DOES NOT EXCEED THE INVERTER MAXIMUM RATING.

## **SUITABLE APPLIANCES / DEVICES**

This Inverter contains inbuilt safety protections to prevent damage to the Inverter, or connected devices, if it is connected to an oversized load. It is recommended that all care be taken when selecting devices or appliances to connect the Inverter to. For more information, please refer to the 'INBUILT SAFETY PROTECTIONS' section on page 8.

- Power tools (700W Inverter) — circular saws, drills, grinders, sanders, buffers, air compressors, battery chargers.
- Office equipment — computers, laptop power supplies, printers, monitors, facsimile machines, scanners.
- Household items — vacuum cleaners, fans, fluorescent and incandescent lights, shavers, sewing machines.
- Kitchen appliances — coffee makers, blenders, mixers, toasters.
- Home entertainment electronics (700W Inverter) — televisions, DVD players, game consoles, stereos, musical instruments.
- 5V devices such as mobile phones and tablets, can be charged/powered directly from the 2 x 2.4A USB sockets located on the front panel of the Inverter.

APPLIANCE TYPE	400W	700W
USB CHARGER	√	√
MOBILE PHONE	√	√
FAN	√	√
WORKLIGHT	√	√
LAPTOP/IPAD	√	√
240V AIR PUMP	√	√
TELEVISION	x	√
POWER TOOLS(UP TO 350W)	x	√
FRIDGE	x	√
MICROWAVE	x	x

\*Not limited to these appliances

\*SUITABLE (√) NOT SUITABLE (x)

#### Recommend minimum cable size:

Inverter	400W	700W
Provided Cable (700mm)	(4mm <sup>2</sup> ) 100% copper	AWG8 (8.37mm <sup>2</sup> ) 100% copper
700mm to 2M	AWG8 (8.37mm <sup>2</sup> ) 100% copper	AWG6 (13.3mm <sup>2</sup> ) 100% copper

## USING THE INVERTER

- Use in a well ventilated area only.
- Do not expose the Inverter to water or other liquids.
- Do not use in extreme weather conditions. Optimal environmental temperatures for use are between -10°C and 40°C.
- Do not expose the inverter to flames or any heat source.

#### Note:

If the Inverter's temperature exceeds the rating temperature range, the Inverter will shut-down and restart once it cools down.

It is recommended the Inverter be unplugged from your vehicle when not in use. Although it only draws a small amount of current, it can cause flattening of a battery if connected and unused for a prolonged period.

The input wiring of the Inverter is divided into red and black. The red cable is positive and the black cable is negative. When connecting the Inverter to a battery, ensure the correct polarities are connected - positive to positive and negative to negative.

If the battery on the vehicle is used, it is recommended to check the battery voltage regularly, and occasionally start the vehicle to charge the battery, so as to prevent the electrical appliances from shutting down, and ensure that there is enough battery power to start the engine.

The battery voltage will decrease when the engine starts which may cause low voltage protection, the Inverter will stop operation.

## **INBUILT SAFETY PROTECTIONS**

### **Overload Protection**

This protection will engage if the Inverter is connected to a load greater than its rating. If the overload is greater than the rated inverter capacity, the red LED indicator will illuminate and the Inverter will shut off output power. Once the overload has been removed, the protection will reset and the Inverter will be ready for use.

### **Over Temperature Protection**

If the Inverter's temperature exceeds the rating temperature range, the red LED indicator will illuminate, the audible alarm will sound and the Inverter will shut off and leave it to cool down. Ensure the cooling fan of the Inverter is not blocked by dust or debris.

### **Over Voltage Protection**

This protection will engage if a problem with the source battery or charging system is identified. If the source battery voltage exceeds 15.5V, the red LED indicator will illuminate and the Inverter will shut off output power. This protection will automatically reset once the over voltage cause is removed.

## Low Voltage Protection

If the source battery voltage level falls below 11V, the audible alarm will sound. Check the battery voltage and charge the battery immediately. When the battery voltage reduces to 10.5V, the red LED indicator will illuminate and the output will be cut off.

## INVERTER MAINTENANCE & REPAIRS

- A. Ensure the Inverter is switched off / unplugged from any power source.
- B. Always store the Inverter in a clean, dry place.
- C. Clean the Inverter ports & housing with a clean microfiber cloth only.
- D. Regularly check the USB sockets for corrosion or damage and replace if necessary.
- E. Take the Inverter to a qualified service agent for any repair work required. Do not attempt to open the Inverter - doing so could cause personal injury, damage to the Inverter and will void the product warranty.

## TROUBLE SHOOTING

FAULT / INDICATION	POSSIBLE REASONS	PROPOSAL
Inverter will not start	The connection is unreliable or damaged	Check all DC connections, including accessory plugs and / or fuses, or replace wiring
Low battery voltage	Over use of, or fault with the battery	Charge battery or replace with another power source
Red LED indicator is flashing when Inverter is under load	<ol style="list-style-type: none"> <li>1. Over Load - device power exceeds Inverter power or power supply power</li> <li>2. Short Circuit - Inverter has entered into protection mode</li> </ol>	<ol style="list-style-type: none"> <li>1. Check that the device/appliance's power matches the Inverter and the power supply</li> <li>2. Check if the device/appliance itself is working properly.</li> <li>3. Manually restart the Inverter and try again to connect the device/appliance properly</li> </ol>
Green LED indicator will not illuminate	<ol style="list-style-type: none"> <li>1. Unreliable connection or fuse burn-out</li> <li>2. The Inverter is damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connection. Check &amp; reinstall or replace the fuse</li> <li>2. Send Inverter to a qualified repair agent for maintenance/repair</li> </ol>



## TECHNICAL SPECIFICATIONS:

Model:	PIME400-12	PIME700-12
Continuous Output Power	400 Watt	700 Watt
Input voltage range	10.5 -15.5V d.c.	10.5 -15.5V d.c.
Low Voltage Input warning alert (beeping alert)	11V	11V
Output Voltage	230-240V	230-240V
Output Frequency	50Hz	50Hz
Output Waveform	Modified sine wave	Modified sine wave
Efficiency (Full Load)	≥85%	≥85%
No Load Current Draw	≤0.3 Amp	≤0.3 Amp
Fuse	2 x 25 Amp	2 x 40 Amp
USB Output	5V x 2 ( 2.4A total )	5V x 2 ( 2.4A total )
Inbuilt Protections	Low and high input voltage Overheating Overloading Short circuit	Low and high input voltage Overheating Overloading Short circuit
Input Cable Type	70cm (4mm <sup>2</sup> ) 100% copper fully insulated	70cm AWG8 ( 8.37mm <sup>2</sup> ) 100% copper fully insulated
Operating Temperature Range	-10°C to + 40°C	-10°C to + 40°C
Cooling	1 x Fan ( automatic operation )	1 x Fan ( automatic operation )
Weight	1.1KG	1.45KG

## WARRANTY

Our product is guaranteed to be free from quality and manufacturing defects for a period of 12 months.

If your product becomes defective during this period, SRGS PTY LTD will offer you either a replacement, credit or refund where a product is faulty; wrongly described; different from the sample shown to you or do not do what they are supposed to do.

This warranty will not cover substantially modified product; misuse or abuse of the product contrary to user instructions or packaging label; change of mind and normal wear and tear.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and failure does not amount to a major failure.

To claim the warranty, take the product to the front Service Desk of your nearest store of purchase. You will need to show receipt or other proof of purchase. Additional information may be required to process your claim. Should you not be able to provide proof of purchase with a receipt or bank statement, identification showing name, address and signature may be required to process your claim.

Any expenses relating to the return of your product to the store will normally have to be paid by you. For online store purchases, SRGS PTY LTD will pay for the return freight for any product assessed as having a major failure.

The benefits to the customer given by this warranty are in addition to other rights and remedies of the Australian Consumer Law in relation to the goods or services to which this warranty relates.

This warranty is provided by SRGS PTY LTD, 6 Coulthards Avenue, Strathpine QLD 4500, Australia. Phone: 1300 175 010.



PLU: 611244 & 611245    CODE: PIME400-12 & PIME700-12  
Manufactured and packaged for SRGS PTY LTD  
ABN 23 113 230 050, 6 Coulthards Avenue  
Strathpine QLD 4500, Australia  
MADE IN CHINA