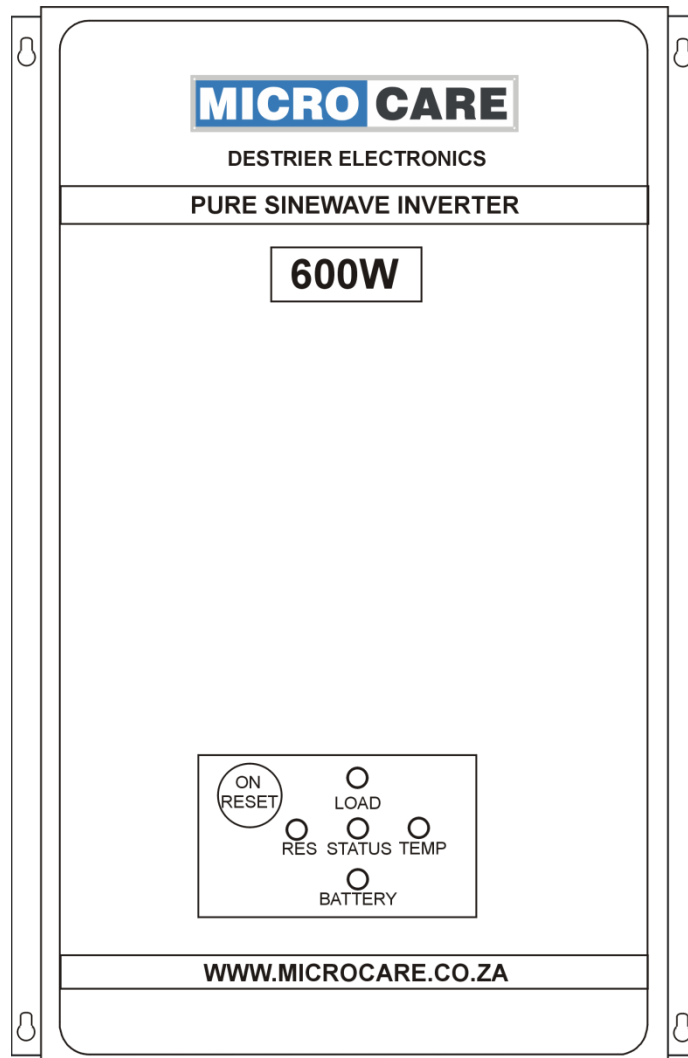


**MICRO CARE**

# Pure Sine Wave Inverter 600W-24V User Manual



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## 1. INTRODUCTION

### 1.1 General Description

Microcare Inverters are Pure Sine Wave Inverters designed to obtain optimum inverted AC power from an installed DC Solar System. Microcare Inverters use galvanic isolation resulting in the product being highly robust and reliable with low standby current and high efficiency ratings. The unit is supplied with attached battery cable & clamps and is ideal for running of small appliances.

## 1.2 Key Features

Pure Sine Wave with LED indicators • High Efficiency • Superior Overload Capability • Full Protection • Fan Cooled • 3 year Warranty

## 2. SAFETY INSTRUCTIONS

### 2.1 Installation Location

- Install the Inverter indoor in a dry protected location away from any sources of moisture.
- Find a suitable temperature resistant surface to mount the inverter.
- The mounting surface must support the weight of the inverter.
- Exposure to saltwater is particularly destructive.
- Do not mount the inverter in a closed container.
- Unrestricted airflow is required for the inverter to operate at optimal efficiency.
- Ensure a 200mm unrestricted clearance at the top, left and right side of the inverter
- Do not install the inverter in the same compartment as non-sealed batteries.
- Locate the Inverter as close as possible to the batteries in order to keep the battery cables as short as possible as supplied with the inverter.

### 2.2 Precautions When Working With Batteries

- Ensure that the inverter is switched off and all loads disconnected before disconnecting the battery leads.
- Be cautious not to drop any tool or metal objects on the battery, this can cause a short circuit or spark and could cause an explosion.
- Flooded batteries contain sulphuric acid and care should be taken to prevent contact with eyes, clothing and skin.
- Do not smoke or allow a spark or flame near the batteries.
- Remove metal items like rings, bracelets and watches when working with batteries, this could cause a short circuit and cause a severe burn.

### 2.3 Battery Charging

- Ensure that the max battery charge voltage from any charging device is lower than 16,5VDC.

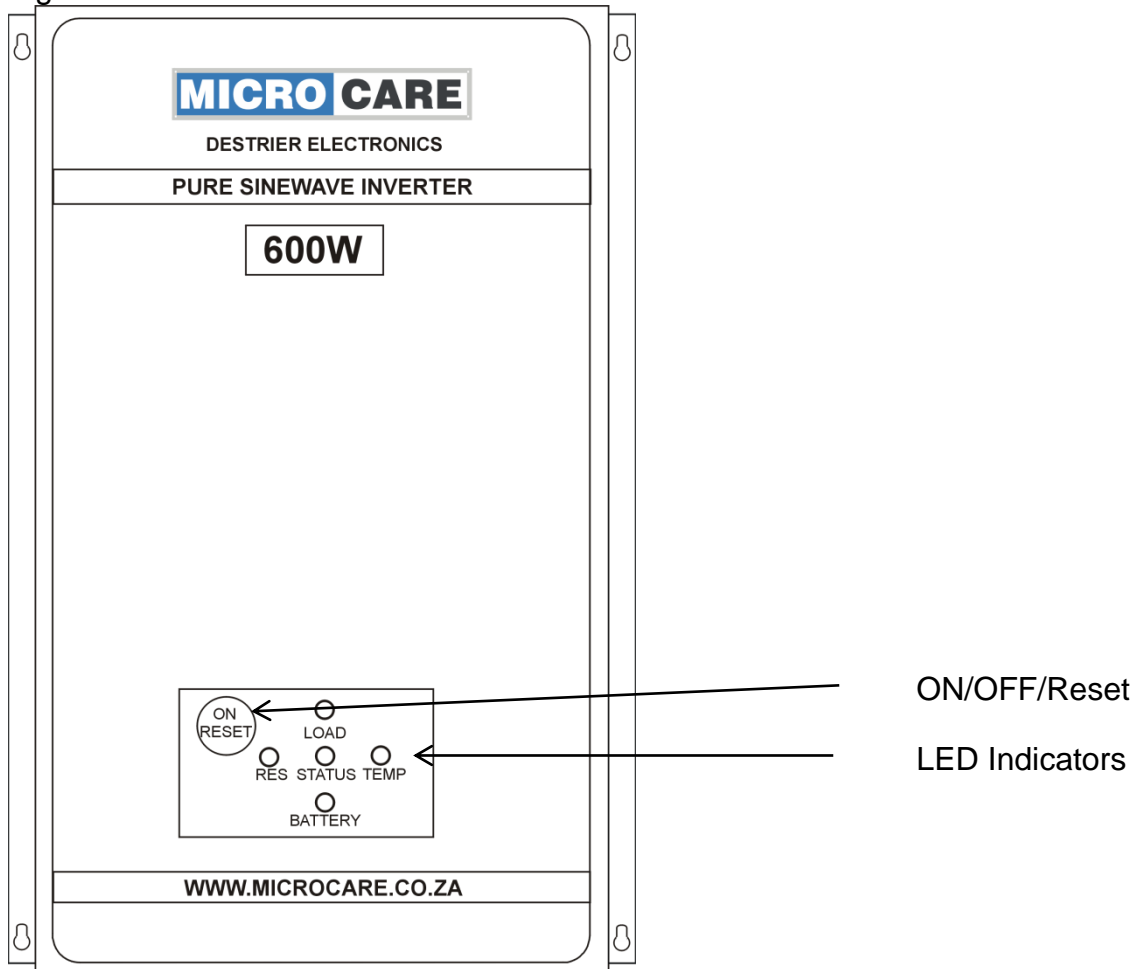
### 2.4 Battery Reverse Polarity Connection

- Incorrect battery polarity connection can cause severe damage to the inverter.

### 3. INVERTER OVERVIEW

#### 3.1 Inverter Front View

Figure 3-1



#### 3.2 Inverter Bottom View

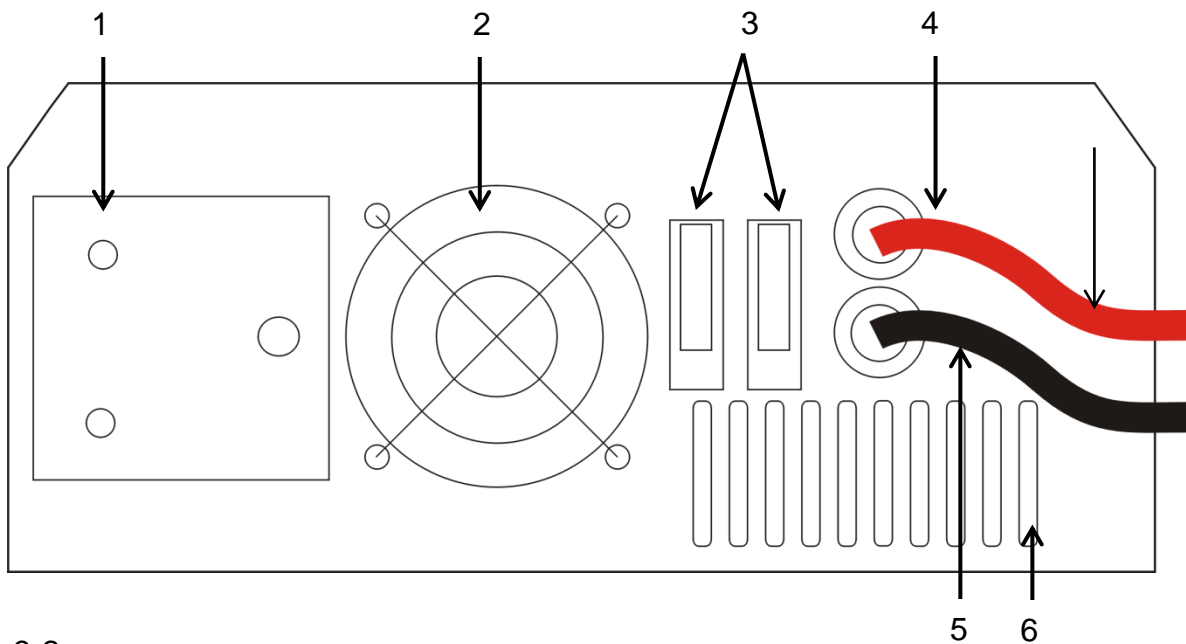


Figure 3-2

- |                           |                           |                  |
|---------------------------|---------------------------|------------------|
| 1. 230V AC Outlet         | 2. Cooling Fan            | 3. 2 x 30A Fuses |
| 4. Battery Cable Positive | 5. Battery Cable Negative |                  |
| 6. Ventilation Holes      |                           |                  |

## 4. GENERAL WIRING INFORMATION

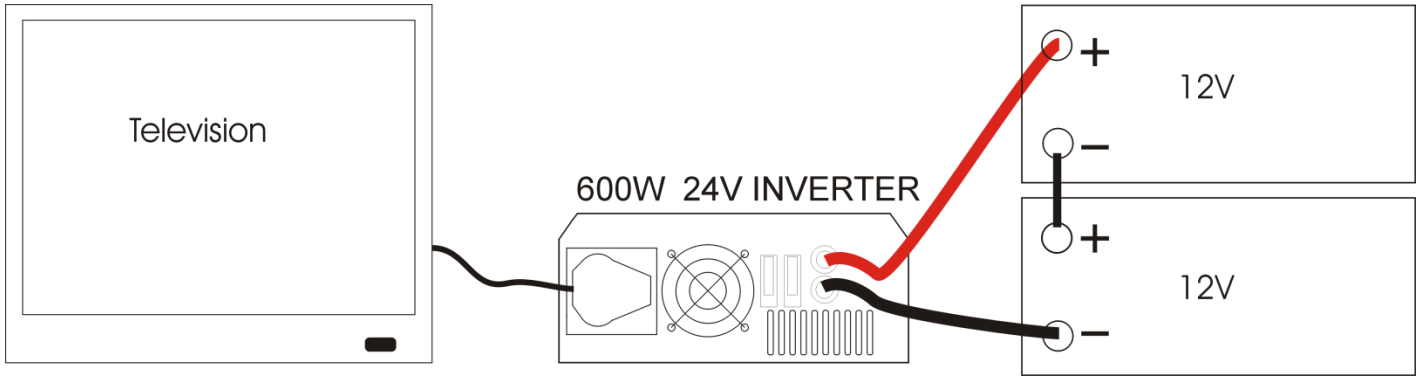


Fig 4.1 ←

- Familiarize yourself with the content of the manual following before commencing with the wiring.

### 4.1 DC Wiring

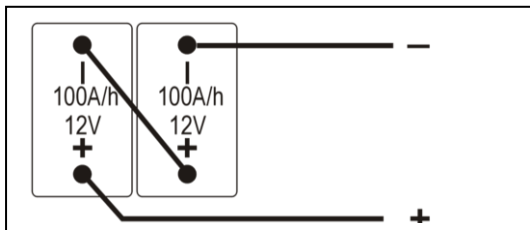
Connect the Positive (Red) battery lead from the inverter to the positive post of the battery. Connect the Negative (Black) battery lead from the inverter to the negative post of the battery.

Ensure that the battery lead lugs are properly tightened.  
The Status LED starts flashing.

### 4.2 Battery Connection Methods

#### 4.2.1 Series Battery Connection

Current remains at 100AH       $12V + 12V = 24V$



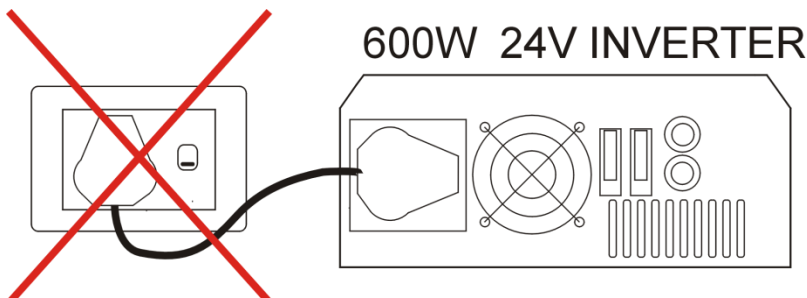
Series Connection (Amperage stays the same as a single battery, voltage increases)

### 4.3 AC Wiring

Connect the appliance "AC Load" to the plug socket on the inverter as in Fig 4-1

Do not connect the AC output of the inverter directly to another AC source.

The AC output of this inverter cannot be connected in parallel with another AC source such as the power from the Grid or a generator. Parallel connection will result in feeding back into the inverter and will instantly damage the inverter..



## 5. INVERTER OPERATION

### 5.1 Front Panel LED Display

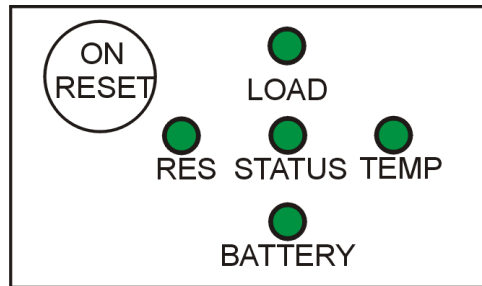


Figure 5-1: LED Display

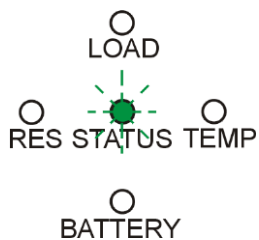
The front Panel Display indicates the Inverter's operational information.

#### Button Function Description

Symbol	Button Name	Function description
	On/Reset	Switches the inverter ON or OFF, resets the inverter

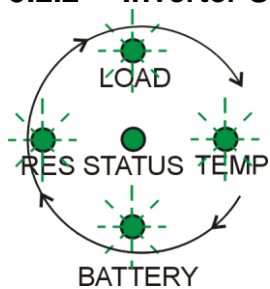
### 5.2 Inverter Status LED's

#### 5.2.1 Inverter Switched Off



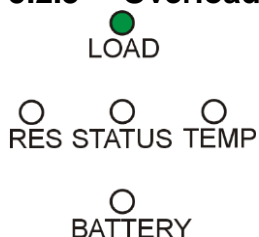
"STATUS LED" Blinking indicates that the inverter is switched off.

#### 5.2.2 Inverter Switched ON



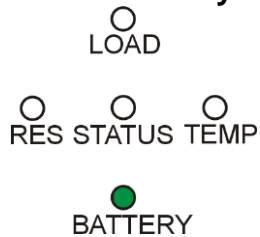
"STATUS LED" steady ON and the other LEDS rotating in a clockwise direction indicates that the inverter is switched on a producing 230VAC

#### 5.2.3 Overload



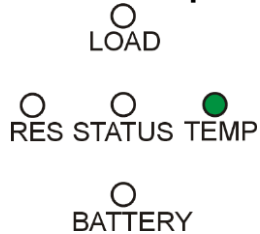
"LOAD LED" Steady ON indicates that the inverter has switched off due to an overload.

### 5.2.4 Battery Low/High



“BATTERY LED” Steady ON indicates that the inverter has switched off due to low battery voltage < 10,5V or high battery voltage >16V

### 5.2.5 Temp



“TEMP LED” Steady ON indicates that the inverter has switched off due to high temperature >80 Degree Celsius

## 5.3 Connecting the Load

- Ensure that the load does not exceed the rating of the inverter.
- Ensure that the Inverter is switched off. Status LED flashes.
- Plug the equipment into the AC outlet socket of the inverter.
- Switch the inverter ON. “Push the On/Reset Button”
- Switch the load ON.

## 6. MAINTENANCE AND SERVICE

### 6.1 Fuse Replacement

If the inverter does not switch on, there is a possibility of a blown fuse caused by DC reverse polarity, short circuit or overload.

To check the fuses:

- Disconnect all AC loads
- Disconnect the Battery
- Remove the Fuses as indicated in on diagram 3.2.
- Visually inspect each of the 2 fuses.
- Blown fuses will have a damaged filament.
- Replacement fuses should be 30A rated quick-blow automotive type fuses only.
- Reconnect wire connections per the installation instructions in Section 4.0

## 7. SPECIFICATIONS

<b>Model</b>	<b>600W 24V</b>
Wattage	600W
Input DC Voltage	24V
Input Voltage Range	21 to 32VDC
Output AC Voltage	230VAC
Output Frequency	50Hz
Surge Rating	200%
Efficiency	<95%
Output Waveform	Sine Wave THD 93%
Protection	Fuse, Short Circuit, Reverse Polarity, Over Temperature
Recommended Battery Size	2x 12V , Minimum 105Ah
Operating Temperature Range	0-50 Deg C
Cooling	Fan Cooling
Dimensions	275 x 220 x 90mm
Weight	7,6 kg
Warranty	1yr



## 8. DESTRIER ELECTRONICS LIMITED CARRY- IN WARRANTY

Destrier Electronics warrants this 600W Inverters against defects in workmanship and materials, fair wear and tear accepted, for a period of 1 (One) year from the date of delivery/collection and is based on a carry-in basis. Where the installation of the product makes it impractical to carry-in to our workshops, Destrier Electronics reserves the right to charge for travel time and kilometres travelled to and from the site where the product is installed.

During this warranty period, Destrier Electronics will, at its own discretion, repair or replace the defective product free of charge. This warranty will be considered void if the unit has suffered any physical damage or alteration, either internally or externally, and does not cover damages arising from improper use such as, but not exclusive to:

- Reverse of battery polarity.
- Inadequate or incorrect connection of the product and/or of its accessories.
- Mechanical shock or deformation.
- Contact with liquid or oxidation by condensation.
- Use in an inappropriate environment (dust, corrosive vapour, humidity, high temperature, biological infestation.)
- Breakage or damage due to lightning, surges, spikes or other electrical events.
- Connection terminals and screws destroyed or other damage such as overheating due to insufficient tightening of terminals.
- When considering any electronic breakage except due to lightning, reverse polarity, over-voltage, etc. the state of the internal control circuitry determines the warranty.

This warranty will not apply where the product has been misused, neglected, improperly installed, or repaired by anyone else than Destrier Electronics or one of its authorised Qualified Service Partners. In order to qualify for the warranty, the product must not be disassembled or modified. Repair or replacement are our sole remedies. Destrier Electronics shall not be liable for damages, whether direct, incidental, special, or consequential, even caused by negligence or fault. Destrier Electronics owns all parts removed from repaired products. Destrier Electronics uses new or re-conditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Destrier Electronics repairs or replaces a part of a product, its warranty term is not extended. Removal of serial nos. may void the warranty.

All remedies and the measure for damages are limited to the above. Destrier Electronics shall in no event be liable for consequential, incidental, contingent or special damages, even if having been advised of the probability of such damages. Any and all other warranties expressed or implied arising by law, course of dealing, course of performance, usage of trade or otherwise, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to a period of 1 (one) year from the date of purchase.

### **Life Support Policy:**

As a general policy, Destrier Electronics does not recommend the use of any of its products in life support applications where failure or malfunction of the Destrier Electronics product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness.

Destrier Electronics does not recommend the use of any of its products in direct patient care. Destrier Electronics will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to Destrier Electronics that the risks of injury or damage have been minimised, the customer assumes all such risks, and the Liability of Destrier Electronics is adequately protected under the circumstances.

### **Caution:**

Our products are sensitive. While all care is taken by us to dispatch goods with adequate packaging, Destrier Electronics is not responsible for any damages caused to products after they have left our premises.

## 9. REGISTRATION OF MY MICROCARE PRODUCT

Product Serial Number:

---

Product Description:

---

Date Purchased

---

### From Whom was the Inverter Purchased:

Company Name

---

Contact Person

---

Contact Number

---

E-mail Address

---

### Installation Company Information:

Company Name

---

Contact Person

---

Contact Number

---

E-mail Address

---

### Details of Product Owner

Name & Surname

---

Address

---

City & Province

---

Contact Number

---

E-mail Address

---

Date Installed

---

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Online Registration:

[www.microcare.co.za/register-my-product](http://www.microcare.co.za/register-my-product)