

**STERLING
POWER**

VULCAN | 48V | 230V | **V485500**
5500W

Pure Sine Wave 5500W Inverter | 48V 80A combined PV / AC Charger



PURE SINE WAVE

Continuous Power Rating: 5,500W	Operational AC Voltage : 240V
Intermittent over load power: 11,000VA	Operational DC Voltage: 40.0V-62.0V
AC output: 190-250VAC (selectable)	AC to DC charge: Up to 60A ~3000W
AC Frequency: 50-60Hz adjustable	Preset and customisable charging profiles
40A Automatic Crossover switch	Solar MPPT input 120VDC - 500VDC
Stand alone = single phase	High voltage alternator input 120VDC - 500VDC
Parallel connection = single phase	PV / Alt + AC max charge: 80A (adjustable)

CE

sterling-power.com

UK
CA



● AC / INV ● CHG ● FAULT

ESC UP DOWN ENTER



instructions



UK
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CE

RoHS
compliant



www.sterling-power.com
www.sterling-power-usa.com

Warranty (2 years return to factory)

Sterling Power Products

Hybrid inverter / Charger | off-grid Handbook

V485500



For latest instructions
scan this QR code

VULCAN V485500 - A basic user guide

A brief description

The Vulcan is a multi-functional off-grid inverter / charger. It combines a high powered pure sine wave inverter (5500W), with a solar charge controller (60A) and a 60A AC to DC battery charger (80A combined). This V48 model connects to a 48V battery. There are many customisable features to the Vulcan that can be found using the QR code above.

This 4 page manual is for the majority of installs. A basic user guide.

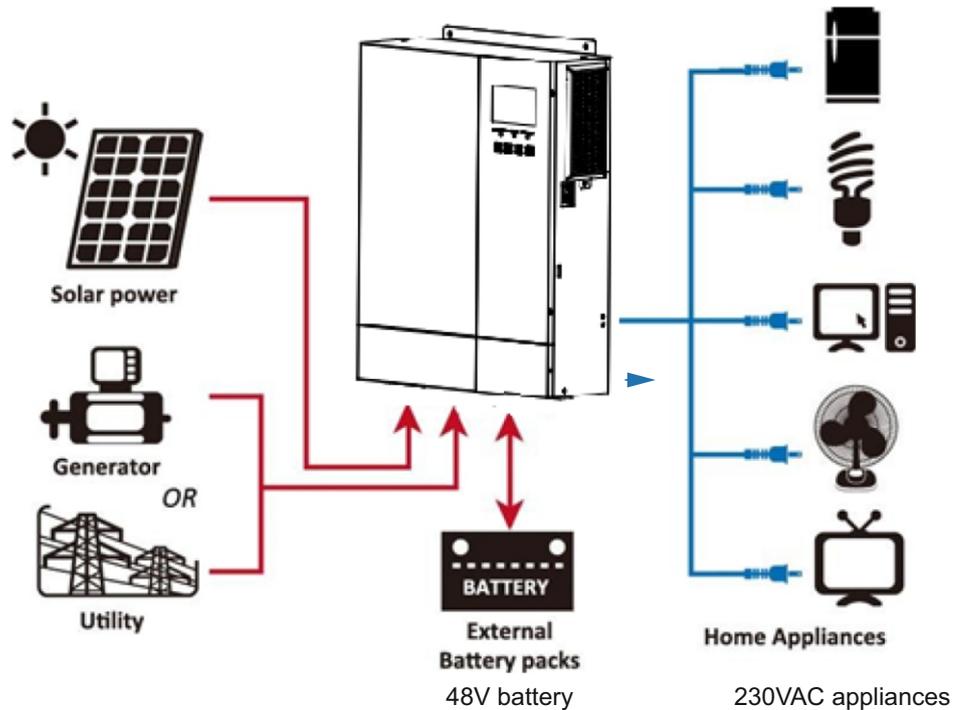
Specifications

Power (W)	Battery (V)	AC Charger	PV + AC	PV input V	Dimensions / weight	Model
5500W	48V	60A	80A	120-500VDC	425 x 330 x 117 (mm) 10.6kg	V485500

AC voltage

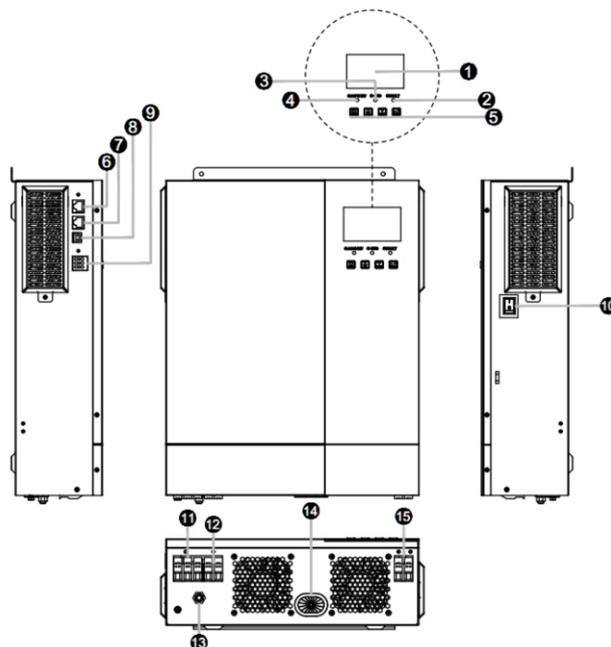
230VAC

Basic Architecture



Key

- 1.LCD display
- 2.Fault indicator
- 3.Charging indicator
- 4.Status indicator
- 5.Function buttons
- 6.RS-232 /RS485communicationport
- 7.CAN communication port
- 8.USB communication port
- 9.Dry contact
- 10.Power on/off switch
- 11.AC input
- 12.AC output
- 13.Circuit breaker
- 14.Battery input
- 15.PV input



VULCAN OVERVIEW Basic Installation

Prep Ensure a qualified person installs the Vulcan. Remove the 2x screws covering the connections at the bottom of the Vulcan. Also remove the grommets. This small booklet assumes a basic understanding.

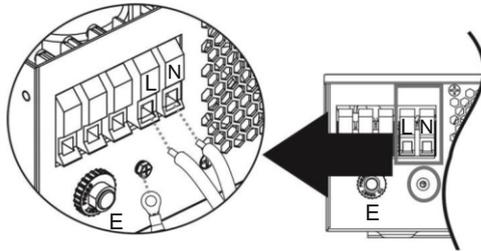
Mounting Use the mounting holes in the top corners and the 2x brackets provided to mount. Orientation in portrait is preferred for ease of use. However, any orientation, the Vulcan shall operate. Leave a good surrounding space for the sake of heat and for attaching the relevant cables into the side / bottom of Vulcan.

Cable / fuse rating The V485500 is capable of pulling up to 150A down to 42VDC - therefore we would recommend 50mm2+ cable depending on cable run length. Fuse at 200A. 6mm2 for AC cable ~30A.

Order of installation

Ensure ALL connections to the Vulcan are made first before connecting to AC or DC. **DO NOT install with live cables!**

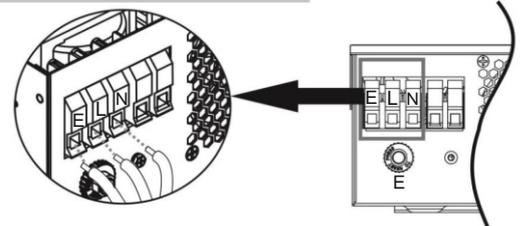
1) **AC output**
(ensure no PV nor DC is connected)
Ensure correct polarity



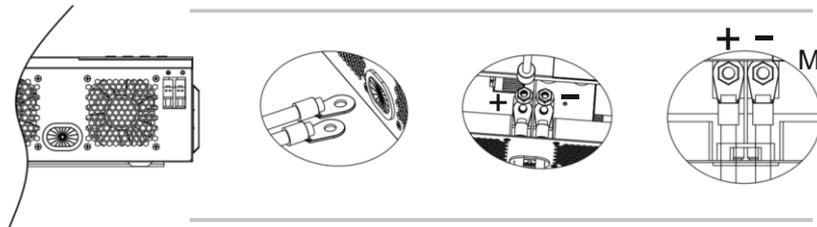
AC Output - to 230VAC appliances
6mm2
1.2Nm torque value

2) **AC input**
(ensure no PV nor DC is connected)
Ensure correct polarity

AC Input - from grid / Gen
50A AC breaker
6mm2
1.2Nm torque value



3) **48V DC connection**
8mm ring terminal
Ensure correct polarity
Ensure you connect to Vulcan before connecting to 48V battery



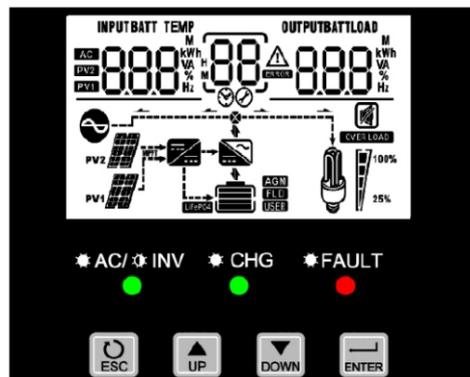
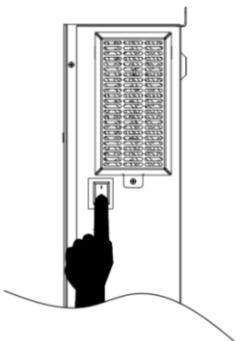
M8
Positive terminal **left**
Negative terminal **right**
48V

4) **PV connection - do this last**

The Vulcan is capable of harnessing up to 3000W of solar power - 120VDC - 500VDC. Ensure the solar panels' negative is isolated from the common DC negative and not grounded / earthed.

Once all cables are connected to the Vulcan turn on the AC and DC

When wired up - turn it on
the on button is located on the side of the Vulcan



AC / INV - green solid LED = Mains is powering AC output (AC throughput mode)

AC / INV - green flashing LED = Battery is powering the AC output (Inverter)

CHG - green solid LED = Battery is full
CHG - green flashing LED = Battery is charging

FAULT - red solid LED = inverter fault
FAULT - red flashing LED = warning



TURNING ON The screen

Provided there are the sufficient voltages on the terminals, the Vulcan should just operate. Out of the box, the Vulcan should be set for a 48V AGM charging profile and operate at 230VAC. It should all behave automatically. If you wish to make some common adjustments, look below. For more substantial features please refer to the QR code and download the PDF.

Changing Battery Type 05 on the menu

The menu - to enter menu press ENTER button for 3 seconds - use UP | DOWN to scroll through

The first thing you may wish to change is the battery type - which is menu number 5. If you wish to change battery type use the UP | DOWN arrows to adjust.

Options: AGM | FLd | USE **FLd- 58.4V Bulk | 54.0V Float** **AGM - 56.4V Bulk | 54.0V Float**

USE = user defined (custom) - scroll through to MENU 26 (bulk) and 27 (float) to set bulk and float voltages - 0.1V increments.

For lithium batteries - we recommend USER - and define your own charge voltages.

Also, you need

DC charging current (total PV + AC input) 02 on the menu

The second thing you may wish to change is the total charge current of the Vulcan - menu number 2. The default is 60A. This is a combination of PV input and AC input. This can be increased to 80A or reduced to 10A. (10A increments). Use the up and down arrows to adjust accordingly.

DC charging current from AC 11 on the menu

In addition to the above. This option allows you to increase or reduce the charge current from AC mains. The default is set to 30A. This can be increased to 60A maximum - (at 10A increments). If the setting above is lower than this setting the Vulcan uses the current set in 02 menu. If increasing the power, please ensure your AC and DC infrastructure can cope with the additional current.

3 Modes Grid priority Solar Priority Solar | Battery 01 on the menu

The Vulcan has 3 functional modes **U** = utility (grid) **S** = solar **b** = battery:

Grid priority **USb** - this mode is simple. If you wish for your AC loads to run from the grid AC (when connected) and not from your battery / solar. When grid is disconnected the Vulcan shall run from battery / solar.

Solar priority **SUb** - this mode ensure that the AC loads are running from solar. If solar energy is not sufficient, grid AC shall assist. Solar working with the grid.

Solar / Battery **SbU** - this mode uses solar first to run AC loads, then battery and then grid, in that order. Only when solar is exhausted, battery is then used. Once solar and battery are exhausted, the grid AC kicks in.

Communication between Vulcan and 48V CAN / RS485

For communications between Vulcan and RS485 / CAN - please refer to large PDF manual

Paralleling Vulcans

To parallel the AC output to double / triple AC output power - please refer to large PDF