

# Inverter RS Smart Solar 48/6000

With 450V/4000W PV input

[www.victronenergy.com](http://www.victronenergy.com)



**Inverter RS Smart Solar 48/6000**

### Off-Grid solar inverter

The Inverter RS Smart Solar 48/6000 is a 48V 6kVA Inverter with 450VDC 4kWp PV input. It is used in off-grid solar applications where AC power is required.

### Combination of an inverter, bi-directional DC-DC converter and MPPT

The inverter produces a perfect sine wave, able to supply high powered appliances. It is supplied by a bi-directional DC-DC converter, that can either charge the battery when excess solar power is available or convert from the battery when it is needed.

### Wide MPPT voltage range

80 – 450VDC, with a 120VDC PV startup voltage.

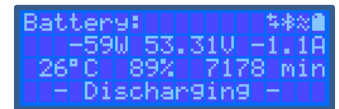
### Light weight, efficient and quiet

Thanks to high frequency technology and a new design this powerful inverter weighs only 11kg. In addition to this it has an excellent efficiency, low standby power, and a very quiet operation.

### Display and Bluetooth

The display reads battery, inverter and solar charge controller parameters.

The same parameters can be accessed with a smartphone or other Bluetooth enabled device. In addition, Bluetooth can be used to set up the system and to change settings with VictronConnect.



### VE.Can and VE.Direct port

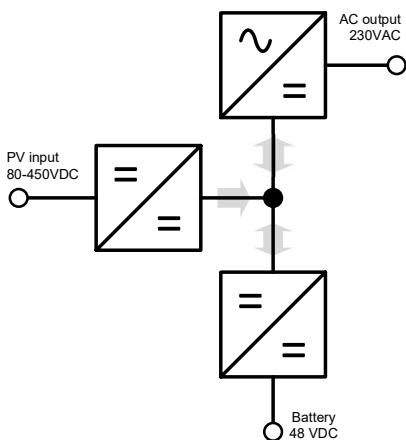
For connection to a GX device for system monitoring, data logging, and remote firmware updates.

### Built in PV isolator

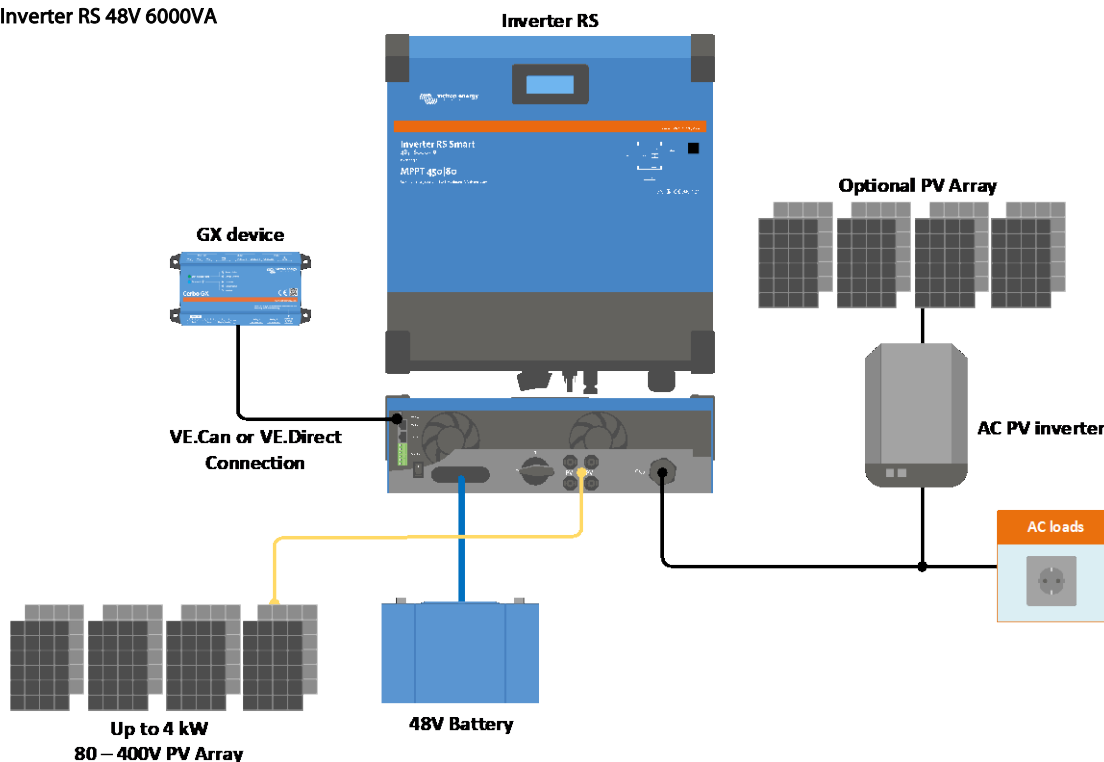
Both parallel PV strings connected to the MC4 plugs can be safely isolated with the large built-in switch on the bottom of the unit.

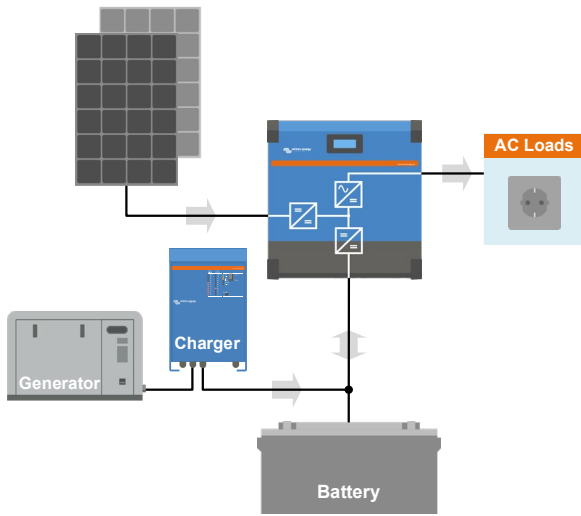
### I/O Connections

Programmable Relay, temperature sensor and voltage sensor connections. The remote input can also be configured to accept the Victron smallBMS.



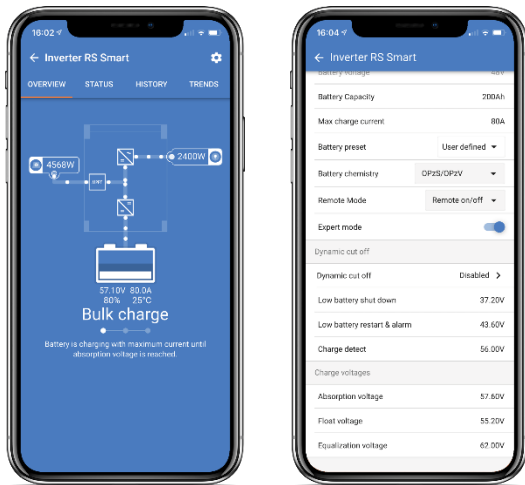
**Inside the Inverter RS 48V 6000VA**





### System example with generator

Add a generator and battery charging if additional power is needed.



### Configure and monitor with VictronConnect

A built-in Smart Bluetooth connection allows for quick monitoring or settings adjustment of the Inverter RS.



### VRM Portal

When the Inverter RS is connected to a GX device with internet connection, you can access our free remote monitoring website (VRM). This will display all your system data in a comprehensive graphical format. System settings can be changed remotely via the portal. Alarms can be received by email.

Inverter RS Smart Solar	48/6000
<b>INVERTER</b>	
DC Input voltage range	38 – 64 V (6)
Output	Output voltage: 230 VAC ± 2% Frequency: 50 Hz ± 0.1% (1)
Continuous output power at 25°C	Increases linearly from 4800 W at 46 VDC to 5300 W at 52 VDC
Continuous output power at 40°C	4500W
Continuous output power at 65°C	3000W
Peak power	9 kW for 3 seconds
Short-circuit output current	50A
Maximum efficiency	96.5% at 1 kW load 94% at 5 kW load
Zero load power	20W
<b>SOLAR</b>	
Maximum DC voltage	450V
Nominal DC voltage	300V
Start-up voltage	120V
MPPT operating voltage range	80 – 450V (5)
DC input current limit	18A (4)
Maximum DC input current	20A
Maximum PV input power	4000W
Maximum DC charging power	4000W
Earth leakage trip level	30 mA
<b>CHARGER</b>	
Charge voltage 'absorption' (V DC)	57.6V
Charge voltage 'float' (V DC)	55.2V
Maximum charge current	100A
Battery temperature sensor	Yes
<b>GENERAL</b>	
Parallel and 3-phase operation	No
Programmable relay (3)	Yes
Protection (2)	a - f
Data Communications Ports	VE.Direct port and VE.Can port (**)
Bluetooth frequency	2402 – 2480 MHz
Bluetooth power	4dBm
General purpose analogue/digital in port	Yes, 2x
Remote on-off	Yes
Operating temperature range	-40 to +65°C (fan assisted cooling)
Humidity (non-condensing)	max 95%
<b>ENCLOSURE</b>	
Material & Colour	steel, blue RAL 5012
Protection category	IP21
Battery-connection	M8 bolts
230 V AC-connection	Screw terminals 13 mm <sup>2</sup> (6 AWG)
Weight	11 kg
Dimensions (hwxwxd)	425 x 440 x 125 mm
<b>STANDARDS</b>	
Safety	EN-IEC 60335-1, EN-IEC 60335-2-29, EN-IEC 62109-1, EN-IEC 62109-2
Emission, Immunity	EN 55014-1, EN 55014-2 EN-IEC 61000-3-2, EN-IEC 61000-3-3 IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3

- Can be adjusted to 60 Hz
- Protection key:
  - output short circuit
  - overload
  - battery voltage too high
  - battery voltage too low
  - temperature too high
  - 230 VAC on inverter output
- Programmable relay which can be set for general alarm, DC under voltage or genset start/stop function. DC rating: 4A up to 35VDC and 1A up to 70VDC
- Normal operation is regulated to 18A, with maximum reverse polarity protection 20A.
- MPPT operating range is also constrained by battery voltage - PV VOC should not exceed 8x battery float voltage, e.g. a 50V battery voltage maximum should have 400V maximum PV array. – see product manual for further information.
- Minimum start-up voltage is 41V. Inverter shutdown can be set as low as 32V DC, but may shut down on low AC output voltage (due to load). Over-voltage disconnect is 65.5V. Charger set-point can be set to max 62V. The charge current derates above 57V.

\*\* Note only the VE.Can port can be used for connection to a GX device. The VE.Direct port supports the GlobalLink 520.