

Inverter RS Smart Solar 48/6000

With 450V/4000W PV input

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.

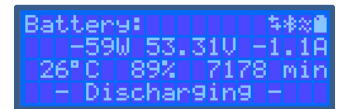
Light weight, efficient and quiet

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

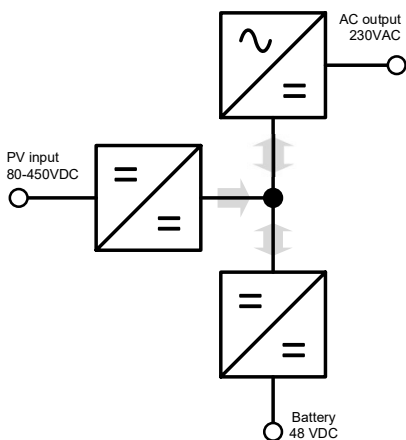
For connection to a GX device for system monitoring, data logging, and remote firmware updates.

Built in PV isolator

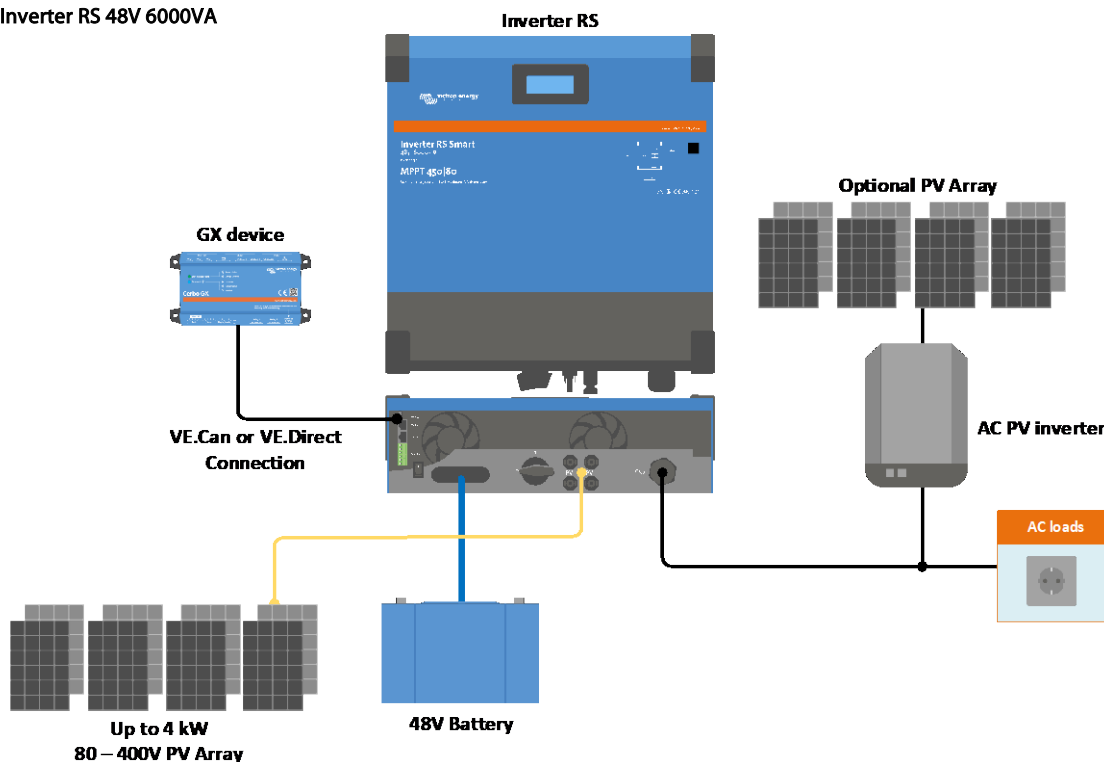
Both parallel PV strings connected to the MC4 plugs can be safely isolated with the large built-in switch on the bottom of the unit.

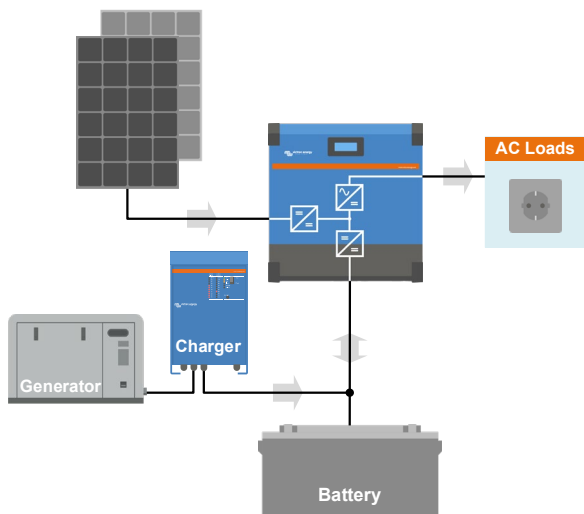
I/O Connections

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



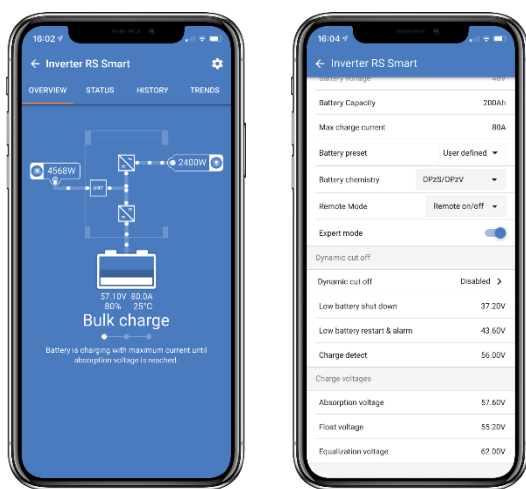
Inside the Inverter RS 48V 6000VA





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
INVERTER	
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
SOLAR	
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
CHARGER	
Charge voltage 'absorption' (V DC)	57.6V
Charge voltage 'float' (V DC)	55.2V
Maximum charge current	100A
Battery temperature sensor	Yes
GENERAL	
Parallel and 3-phase operation	No
Programmable relay (3)	Yes
Protection (2)	a - f
Data Communications Ports	VE.Direct port and VE.Can port
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%
ENCLOSURE	
Material & Colour	steel, blue RAL 5012
Protection category	IP22
Battery-connection	M8 bolts
230 V AC-connection	Screw terminals 13 mm ² (6 AWG)
Weight	11 kg
Dimensions (hxwx d)	425 x 440 x 125 mm
STANDARDS	
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

1) Can be adjusted to 60 Hz

- 2) Protection key:
- output short circuit
 - overload
 - battery voltage too high
 - battery voltage too low
 - temperature too high
 - 230 VAC on inverter output

3) 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

4) Normal operation is regulated to 18A, with maximum reverse polarity protection 20A.

5) 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.

6) 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.