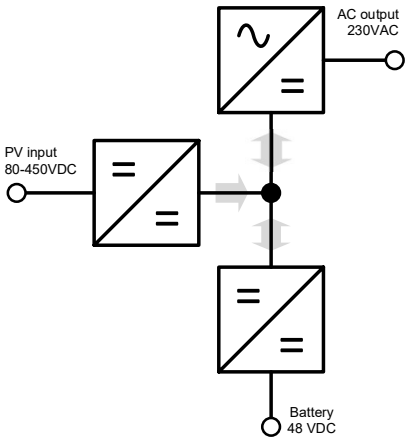
# Inverter RS Smart Solar 48/6000

With 450V/4000W PV input

www.victronenergy.com

Inverter RS Smart Solar 48/6000




Inside the Inverter RS 48V 6000VA

## 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

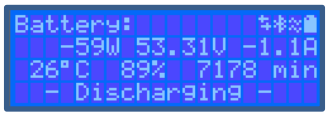
80 – 450VDC, with a 120VDC PV startup voltage.

## 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

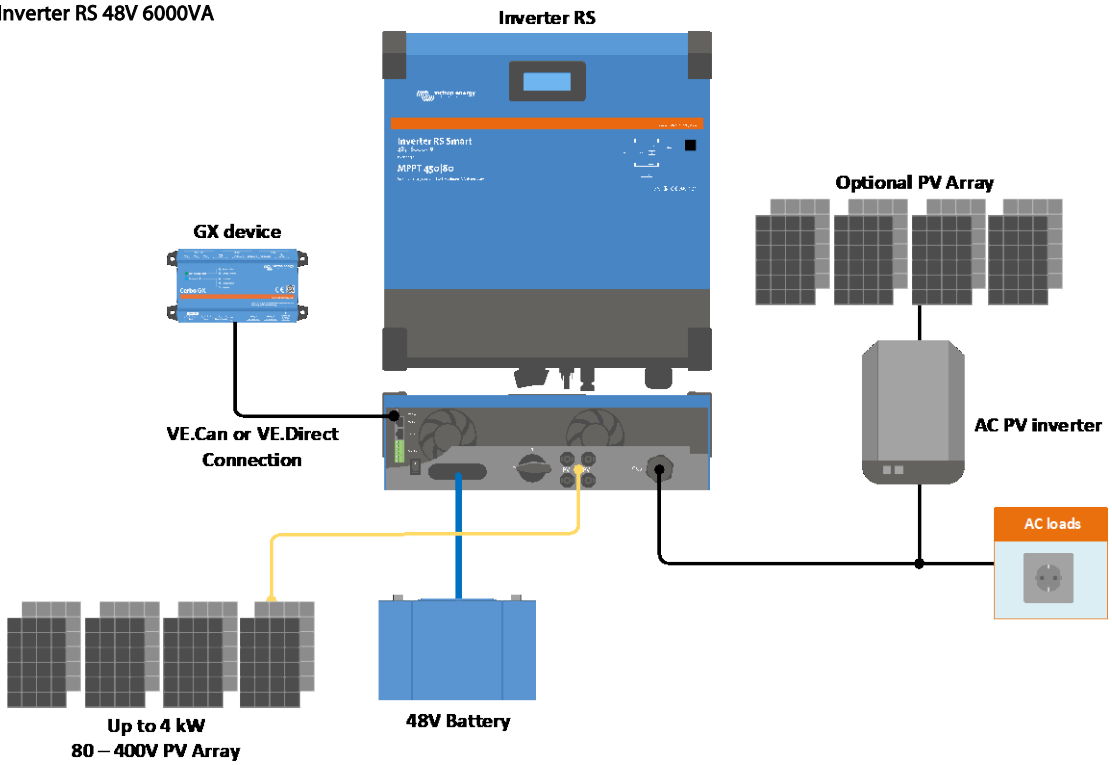
For connection to a GX device for system monitoring, data logging, and remote firmware updates.

## Built in PV isolator

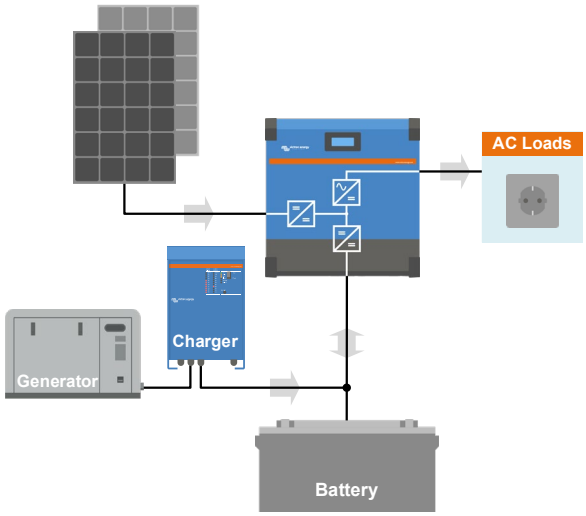
Both parallel PV strings connected to the MC4 plugs can be safely isolated with the large built-in switch on the bottom of the unit.

## I/O Connections

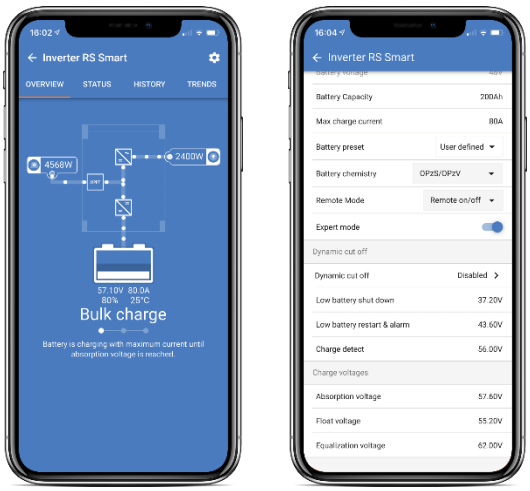
Programmable Relay, temperature sensor and voltage sensor connections. The remote input can also be configured to accept the Victron smallBMS.



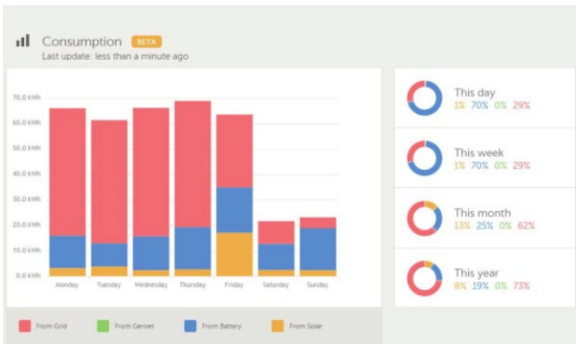

Victron Energy B.V. | De Paal 35 | 1351 JG Almere | The Netherlands
General phone: +31 (0)36 535 97 00 | E-mail: sales@victronenergy.com
**www.victronenergy.com**




**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%<br>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<br>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<br>Maximum DC input current | 18A (4)<br>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 | IP21 |
| Battery-connection | M8 bolts |
| 230 V AC-connection | Screw terminals 13 mm² (6 AWG) |
| Weight | 11 kg |
| Dimensions (hxwxd) | 425 x 440 x 125 mm |
| **STANDARDS** | |
| Safety | EN-IEC 60335-1, EN-IEC 60335-2-29,<br>EN-IEC 62109-1, EN-IEC 62109-2 |
| Emission, Immunity | EN 55014-1, EN 55014-2<br>EN-IEC 61000-3-2, EN-IEC 61000-3-3<br>IEC 61000-6-1, IEC 61000-6-2, IEC 61000-6-3 |

1) Can be adjusted to 60 Hz

2) Protection key:
a) output short circuit
b) overload
c) battery voltage too high
d) battery voltage too low
e) temperature too high
f) 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.

Victron Energy B.V. | De Paal 35 | 1351 JG Almere | The Netherlands
General phone: +31 (0)36 535 97 00 | E-mail: sales@victronenergy.com
**www.victronenergy.com**