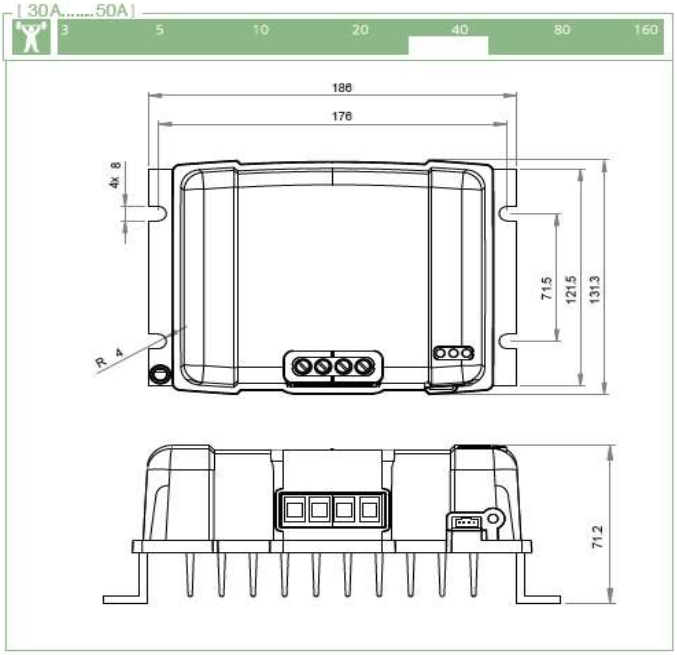
SETSOLAR
Renewable Energy Solutions


## Solar charge controller MPPT 100-30 /100-50

### Ultra-fast Maximum Power Point Tracking (MPPT)

Especially in case of a clouded sky, when light intensity is changing continuously, an ultra fast MPPT controller will improve energy harvest by up to 30%
compared to PWM charge controllers and by up to 10% compared to slower MPPT controllers.

### Advanced Maximum Power Point Detection in case of partial shading conditions

If partial shading occurs, two or more maximum power points may be present on the power-voltage curve. Conventional MPPT's tend to lock to a local MPP, which may not be the optimum MPP. The charge controller will always maximize energy harvest by locking to the optimum MPP.

### Outstanding conversion efficiency

No cooling fan. Maximum efficiency exceeds 98%. Full output current up to 40°C (104°F).

### Extensive electronic protection

- Over-temperature protection and power derating when temperature is high.
- PV short circuit and PV reverse polarity protection.
- PV reverse current protection.

### Internal temperature sensor

Compensates absorption and float charge voltage for temperature.

### Certificates

Compliant with European Standards (CE)
RoHS compliant
SGS
ISO 9001
Made in China

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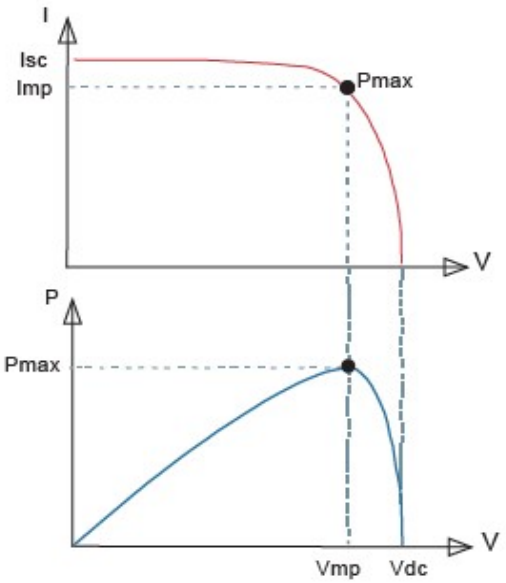
| | MPPT 100/30 | MPPT 100/50 |
|---|---|---|
| System voltage | 12/24 V Auto Select | |
| Maximum output current | 30 A | 50 A |
| Maximum PV power, 12V 1a,b) | 440 W (MPPT range 15 V to 80 V) | 700 W (MPPT range 15 V to 70 V resp.95V) |
| Maximum PV power, 24V 1a,b) | 880 W (MPPT range 30 V to 80 V) | 1400 W (MPPT range 30 V to 70 V resp.95V) |
| Maximum PV open circuit voltage | 100 V | |
| Maximum efficiency | 98 % | |
| Self-consumption | 10 mA | |
| Charge voltage 'absorption' | Default setting:14,4 V / 28.8 V (adjustable) | |
| Charge voltage 'float' | Default setting:13,8 V / 27,6 V(adjustable) | |
| Charge algorithm | multi-stage adaptive | |
| Temperature compensation | -16 mV / °C resp.-32 mV / °C | |
| Protection | Battery reverse polarity (fuse, not user accessible)<br>Output short circuit Over temperature<br>(MPPT 100/50:PV reverse polarity) | |
| Operating temperature | 30 to +60°C (full rated output up to 40°C) | |
| Humidity | 95%,non-condensing | |
| Data communication port | VE.Direct<br>See the data communication white paper on our website | |
| ENCLOSURE | | |
| Colour | Blue (RAL 5012) | |
| Terminals(fine / single wire) | 13 mm² / AWG 6 | |
| Protection category | IP43 (electronic components), IP22 (connection area) | |
| Weight | 1,25 kg | |
| Dimensions (X x Y x Z) | 130 x 186 x 70 mm | |
| STANDARDS | | |
| Safety | EN/IEC 62109 | |

1a) If more PV power is connected, the controller will limit input power to 440W resp. 880 W(MPPT 100/50:700W resp. 1400W)
1b) PV voltage must exceed Vbat + 5V for the controller to start. Thereafter minimum PV voltage is Vbat + 1V




## Maximum Power Point Tracking

### Upper curve:

Output current (I) of a solar panel as function of output voltage (V).
The maximum power point (MPP) is the point Pmax along the curve where the product I x V reaches its peak.

### Lower curve:

Output power P = I x V as function of output voltage.
When using a PWM (not MPPT) controller the output voltage of the solar panel will be nearly equal to the voltage of the battery, and will be lower than Vmp.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