# BlueSolar Charge Controller MPPT 150/35 & 150/45

www.victronenergy.com






**Solar Charge Controller**
**MPPT 150/35**

### Ultrafast 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 MPPTs tend to lock to a local MPP, which may not be the optimum MPP.
The innovative BlueSolar algorithm 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).

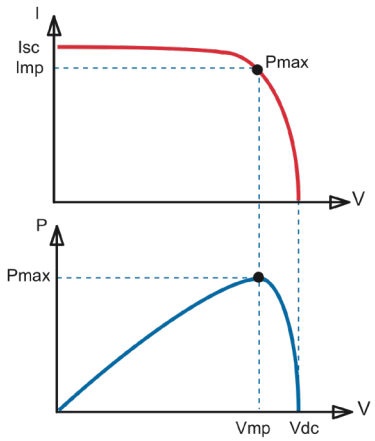
### Flexible charge algorithm
Fully programmable charge algorithm (see the software page on our website), and eight preprogrammed algorithms, selectable with a rotary switch (see manual for details).

### 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.

### Real-time data display options
- Color Control GX or other GX devices: see the **Venus** documents on our website.
- A smartphone or other Bluetooth-enabled device: VE.Direct Bluetooth Smart dongle needed.




### 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.

| BlueSolar Charge Controller | MPPT 150/35 | MPPT 150/45 |
|---|---|---|
| Battery voltage | 12 / 24 / 48V Auto Select (software tool needed to select 36V) | |
| Rated charge current | 35A | 45A |
| Nominal PV power 1a, b) | 35A 12V: 500W / 24V: 1000W / 36V: 1500W / 48V: 2000W<br>45A 12V: 650W / 24V: 1300W / 36V: 1950W / 48V: 2600W | |
| Max. PV short circuit current 2) | 40A | 50A |
| Maximum PV open circuit voltage | 150V absolute maximum coldest conditions<br>145V start-up and operating maximum | |
| Maximum efficiency | 98% | |
| Self-consumption | 12V: 20 mA 24V: 15 mA 48V: 10mA | |
| Charge voltage 'absorption' | Default setting: 14,4 / 28,8 / 43,2 / 57,6V (adjustable) | |
| Charge voltage 'float' | Default setting: 13,8 / 27,6 / 41,4 / 55,2V (adjustable) | |
| Charge algorithm | multi-stage adaptive (eight pre-programmed algorithms) | |
| Temperature compensation | -16 mV / -32 mV / -64 mV / °C | |
| Protection | PV reverse polarity / output short circuit / over-temperature | |
| 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) | |
| Power terminals | 16 mm² / AWG6 | |
| Protection category | IP43 (electronic components), IP22 (connection area) | |
| Weight | 1,25 kg | |
| Dimensions (h x w x d) | 130 x 186 x 70 mm | |
| STANDARDS | | |
| Safety | EN/IEC 62109-1, UL 1741, CSA C22.2 | |

1a) If more PV power is connected, the controller will limit input power.
1b) PV voltage must exceed Vbat + 5V for the controller to start.
Thereafter minimum PV voltage is Vbat + 1V.
2) A PV array with a higher short circuit current may damage the controller.

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**