

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

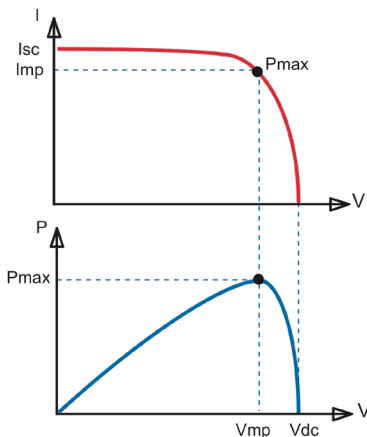
Over-temperature protection and power derating when temperature is high. PV short circuit and PV reverse polarity protection. PV reverse current protection.

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 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 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 See the data communication white paper on our website | |
| ENCLOSURE | | |
| Colour | Blue (RAL 5012) | |
| Power terminals | 16 mm ² / 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. | | |