

SmartSolar Charge Controller MPPT 150/35 & 150/45

www.victronenergy.co.nz



SmartSolar Charge Controller
MPPT 150/35



Bluetooth sensing
Smart Battery Sense



Bluetooth sensing
BMV-712 Smart Battery Monitor



Bluetooth Smart built-in

The wireless solution to set-up, monitor, update and synchronise SmartSolar Charge Controllers.

VE.Direct

For a wired data connection to a Color Control GX, other GX products, PC or other devices

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.

Optional external battery voltage and temperature sensing via Bluetooth

A Smart Battery Sense or a BMV-712 Smart Battery Monitor can be used to communicate battery voltage and temperature to one or more SmartSolar Charge Controllers.

Fully discharged battery recovery function

Will initiate charging even if the battery has been discharged to zero volts.

Will reconnect to a fully discharged Li-ion battery with integrated disconnect function.

| SmartSolar 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: 20mA 24V: 15mA 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) The PV voltage must exceed Vbat + 5V for the controller to start. Thereafter the minimum PV voltage is Vbat + 1V. | | |
| 2) A PV array with a higher short circuit current may damage the controller. | | |