

## SmartSolar charge controller MPPT 150/35 &amp; 150/45

SmartSolar Charge Controller  
MPPT 150/35Bluetooth sensing  
Smart Battery SenseBluetooth 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	
<b>ENCLOSURE</b>		
Colour	Blue (RAL 5012)	
Power terminals	16 mm <sup>2</sup> / 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	
<b>STANDARDS</b>		
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.