

# 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

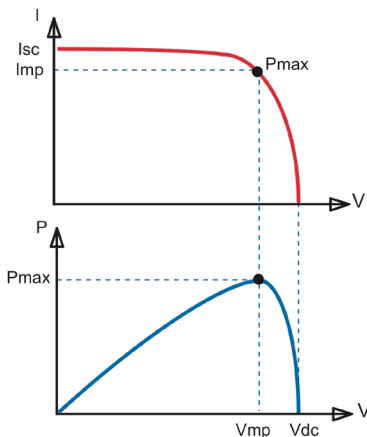
Over-temperature protection and power derating when temperature is high. PV short circuit and PV reverse polarity protection. PV reverse current protection.

### 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  $I \times V$  reaches its peak.

#### Lower curve:

Output power  $P = I \times V$  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  $V_{mp}$ .

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	
<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) PV voltage must exceed $V_{bat} + 5V$ for the controller to start. Thereafter minimum PV voltage is $V_{bat} + 1V$ .		
2) A PV array with a higher short circuit current may damage the controller.		