



Solar Charge Controller
MPPT 150/35
Part No.: T1200156101

A solar charger gathers energy from your solar panels, and stores it in your batteries. Using the latest, fastest technology, **SmartSolar** maximises this energy harvest, driving it intelligently to achieve full charge in the shortest possible time. **SmartSolar** maintains battery health, which extends battery life.

The **SmartSolar Charge Controller** will even recharge a severely depleted battery. It can operate with a battery voltage as low as 0 Volts, provided the cells are not permanently sulphated or otherwise damaged.

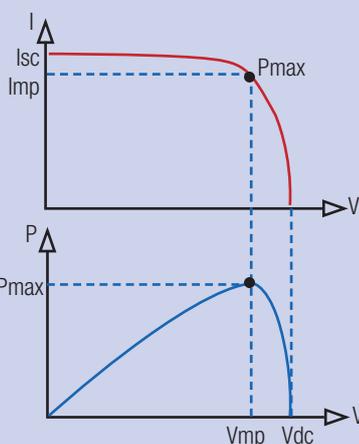
On a cloudy day, when light intensity is changing continuously, an ultra-fast MPPT controller will improve energy harvest by up to 30% compared to PWM charge controllers and by up to 10% compared to slower MPPT controllers.

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 maximise energy harvest by locking to the optimum MPP.

Fully programmable charge algorithm (see the software page on the Victron Energy website), and eight pre-programmed algorithms, selectable with a rotary switch.

Features & Benefits:

- Ultrafast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Outstanding conversion efficiency
- No cooling fan. Maximum efficiency exceeds 98%.
- The full output current up to 40 °C (104 °F)
- Flexible charge algorithm
- 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
 - ColourControl GX or other GX devices: see the Venus documents on the Victron Energy 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
Battery Voltage	12/24/8 V auto select (software tool needed to select 36 V)	
Rated Charge Current	35 A	
Nominal PV Power ^{1a, b)}	12 V: 500 w / 4 V: 1000 w / 36 V: 1500 w / 48 V: 2000 w	
Max. PV Short Circuit Current ²⁾	40 A	
Maximum PV Open Circuit Voltage	150 V absolute maximum coldest conditions 145 V start-up and operating maximum	
Maximum Efficiency	98%	
Self-Consumption	12 V: 20 mA 24 V: 15 mA 48 V: 10 mA	
Charge Voltage 'Absorption'	Default setting: 14.4 / 28.8 / 43.2 / 57.6 V (adjustable)	
Charge Voltage 'Float'	Default setting: 13.8 / 27.6 / 41.4 / 55.2 V (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 °C 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 Victron 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	
STANDARD		
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 + 5 V for the controller to start. Thereafter minimum PV voltage is Vbat + 1 V.

2) A PV array with a higher short circuit current may damage the controller.

This may not be a stock item. Please speak to our sales representative about lead times. Lead times, price and availability can only be determined on receipt of an official quote from our supplier. This can sometimes take up to 3 days.

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