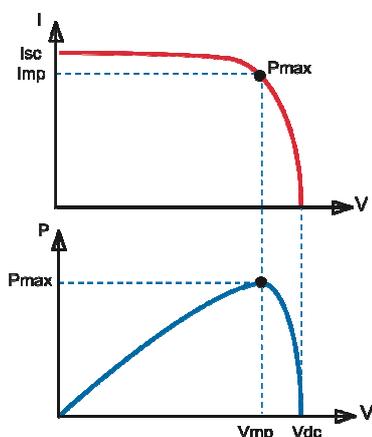


# BlueSolar charge controller MPPT 75/50

www.victronenergy.com



Solar charge controller  
MPPT 75/50



## 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  $V_{mp}$ .

## Charge current up to 50 A and PV voltage up to 75 V

The BlueSolar 75/50-MPPT charge controller is able to charge a lower nominal-voltage battery from a higher nominal voltage PV array.

The controller will automatically adjust to a 12 or 24V nominal battery voltage.

## Ultra-fast Maximum Power Point Tracking (MPPT)

Especially in case of a cloudy 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 MPPT's 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

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.

BlueSolar charge controller	MPPT 75/50
Battery voltage	12/24 V Auto Select
Maximum battery current	50 A
Maximum PV power, 12V 1a,b)	700 W (MPPT range 15 V to 70 V)
Maximum PV power, 24V 1a,b)	1400 W (MPPT range 30 V to 70 V)
Maximum PV open circuit voltage	75 V
Peak efficiency	98 %
Self-consumption	10 mA
Charge voltage 'absorption'	Default setting: 14,4 V / 28,8 V
Charge voltage 'float'	Default setting: 13,8 V / 27,6 V
Charge algorithm	multi-stage adaptive
Temperature compensation	-16 mV / °C resp. -32 mV / °C
Protection	Battery reverse polarity (fuse) Output short circuit Over temperature
Operating temperature	-30 to +60°C (full rated output up to 40°C)
Humidity	95 %, non-condensing
	<b>ENCLOSURE</b>
Colour	Blue (RAL 5012)
Power terminals	13 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
1a) If more PV power is connected, the controller will limit input power to 700W resp. 1400W	
1b) PV voltage must exceed $V_{bat} + 5V$ for the controller to start. Thereafter minimum PV voltage is $V_{bat} + 1V$	