# BlueSolar charge controller MPPT 100/15

www.victronenergy.com


**Solar charge controller**
**MPPT 100/15**

## Ultra fast Maximum Power Point Tracking (MPPT)

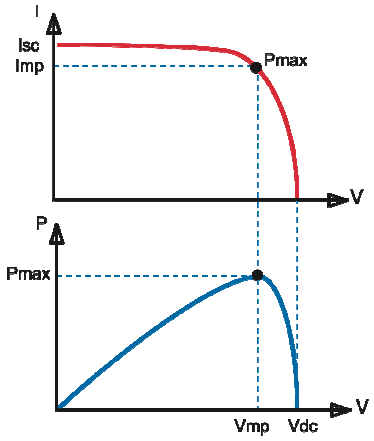
Especially in case of a clouded sky, when light intensity is changing continuously, an ultra fast MPPT controller will improve energy harvest by up to 30% compared to PWM charge controllers and by up to 10% compared to slower MPPT controllers.

## Load output

Over-discharge of the battery can be prevented by connecting all loads to the load output. The load output will disconnect the load when the battery has been discharged to a preset voltage. Alternatively, an intelligent battery management algorithm can be chosen: see BatteryLife.
The load output is short circuit proof.
Some loads (especially inverters) can best be connected directly to the battery, and the inverter remote control connected to the load output. A special interface cable may be needed, please see the manual.

## BatteryLife: intelligent battery management

When a solar charge controller is not able to recharge the battery to its full capacity within one day, the result is often that the battery will be continually be cycled between a “partially charged” state and the “end of discharge” state. This mode of operation (no regular full recharge) will destroy a lead-acid battery within weeks or months.
The BatteryLife algorithm will monitor the state of charge of the battery and, if needed, day by day slightly increase the load disconnect level (i. e. disconnect the load earlier) until the harvested solar energy is sufficient to recharge the battery to nearly the full 100%. From that point onwards the load disconnect level will be modulated so that a nearly 100% recharge is achieved about once every week.




### 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 x V reaches its peak.

**Lower curve:**
Output power P = I x 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

| BlueSolar charge controller | MPPT 100/15 |
|---|---|
| Battery voltage | 12/24 V Auto Select |
| Maximum battery current | 15 A |
| Maximum PV power, 12V 1a,b) | 200 W (MPPT range 15 V to 100 V) |
| Maximum PV power, 24V 1a,b) | 400 W (MPPT range 30 V to 100 V) |
| Automatic load disconnect | Yes, maximum load 15 A |
| Maximum PV open circuit voltage | 100 V |
| Peak efficiency | 98 % |
| Self consumption | 10 mA |
| Charge voltage 'absorption' | 14,4 V / 28,8 V |
| Charge voltage 'float' | 13,8 V / 27,6 V |
| Charge algorithm | multi-stage adaptive |
| Temperature compensation | -16 mV / °C resp. -32 mV / °C |
| Continuous/peak load current | 15A / 50A |
| Low voltage load disconnect | 11,1 V / 22,2 V or 11,8 V / 23,6 V<br>or BatteryLife algorithm |
| Low voltage load reconnect | 13,1 V / 26,2 V or 14 V / 28 V<br>or BatteryLife algorithm |
| Protection | Battery reverse polarity (fuse)<br>Output short circuit<br>Over temperature |
| Operating temperature | -30 to +60°C (full rated output up to 40°C) |
| Humidity | 100 %, non-condensing |
| Data communication port | VE.Direct<br>See the data communication white paper on our website |
| ENCLOSURE | |
| Colour | Blue (RAL 5012) |
| Power terminals | 6 mm² / AWG10 |
| Protection category | IP65 (electronic components) |
| Weight | 0,4 kg |
| Dimensions (h x w x d) | 100 x 113 x 47 mm |

1a) If more PV power is connected, the controller will limit input power to 200W resp. 400W
1b) PV voltage must exceed Vbat + 5V for the controller to start. Thereafter minimum PV voltage is Vbat + 1V

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