

SmartSolar MPPT 100/30 & 100/50

SOLAR CHARGE CONTROLLER

FEATURES

- 30A to 50A Solar Charge Controller
- 12V, 24Vdc Autoselect
- Max PV 100V
- Bluetooth Smart built-in: dongle not needed
- 98% efficiency. Outstanding conversion efficiency
- Ultra-fast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Flexible charge algorithm
- Extensive electronic protection
- VE.Direct
- Real-time data display options



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Solar charge controller A solar charger gathers energy from your solar panels, and stores it in your batteries. Using the latest, fastest technology, BlueSolar maximises this energy-harvest, driving it intelligently to achieve full charge in the shortest possible time. BlueSolar maintains battery health, extending its life. Models: 12/24/36/48 Volt

Ultra-fast Maximum Power Point Tracking (MPPT): By constantly monitoring the voltage and current output of your solar (PV) panels, MPPT technology ensures that every drop of available power is rinsed out of your panels, and harvested for storage. The advantage of this is most noticeable when the sky is partially clouded, and light intensity is constantly changing..

Remote Monitoring and Control Remotely control and monitor the extensive features of your BlueSolar MPPT charger by attaching a bluetooth dongle and pairing it with your smartphone or other device via VictronConnect. If your installation is connected to the internet Victron Remote Management Portal (VRM) provides access to the full power of your MPPT, anytime, anywhere; both services are free to use. For remote installations - even when there is no internet connection or phone signal nearby - you may be able to monitor your MPPT by bluetooth-pairing with a LoRaWAN (long-range wide area network) device, available optionally.

Bluetooth Smart built-in: dongle not needed: The wireless solution to set-up, monitor and update the controller using Apple and Android smartphones, tablets or other devices.

VE.Direct: For a wired data connection to a Color Control panel, Venus GX, PC or other devices

Optional SmartSolar Control Display By adding the SmartSolar Control Display you will be able to check the status of your Charger and battery-storage at a glance. Simply plug it into the face of your MPPT charger to provide you with real-time monitoring and set-up capabilities

Advanced Maximum Power Point Detection in case of partial shading conditions: If partial shading occurs, two or more maximum powerpoints may be present on the power-voltage curve. Conventional MPPTs tend to lock to a local MPP, which may not be optimum MPP. The innovative BlueSolar algorithm will always maximize energy harvest by locking to the optimum MPP.

Outstanding conversion efficiency: Maximum efficiency exceeds 98%. Full output power up to 40C.

Flexible charge algorithm: Fully programmable charge algorithm. One user programmable algorithm. Manual or automatic equalization. Battery temperature sensor. Battery voltage sense option.

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: Apple and Android smartphones, tablets and other devices, and Color Control panel.

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SPECIFICATIONS

GENERAL	
Battery Voltage	12V, 24V Auto Select
Rated charge current	See selection table
Nominal PV power	See selection table
Self-consumption	12V: 30 mA , 24V: 20 mA
Charge voltage 'absorption'	Default setting: 14,4V / 28,8V (adjustable)
Charge voltage 'float'	Default setting: 13,8V / 27,6V (adjustable)
Charge algorithm	multi-stage adaptive
Temperature compensation	-16 mV / °C resp. -32 mV / °C
Protection	Battery reverse polarity (fuse, not user accessible) 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, Contact Powerbox

ENVIRONMENTAL	
Operating temperature	-30 to +60°C (full rated output up to 40°C)
Humidity	95%, non-condensing
Maximum altitude	5000m (full rated output up to 2000m)
Environmental condition	Indoor, unconditioned
Pollution degree	PD3

STANDARDS	
Safety	EN/IEC 62109-1, UL 1741, CSA C22.2

MECHANICAL	
Colour	Blue (RAL 5012)
Power terminals	13 mm ² / AWG6
Protection category	IP43 (electronic components), IP22 (connection area)
Weight	1,3 kg
Dimensions (h x w x d)	130 x 186 x 70 mm

SELECTION TABLE

SMARTSOLAR CHARGE CONTROLLER	MPPT 100/30	MPPT 100/50
Battery voltage (Auto Select)	12 / 24 V	12 / 24 V
Rated charge current	30A	50A
Nominal PV power, 12V 1a,b)	440W	700W
Nominal PV power, 24V 1a,b)	880W	1400W
Max. PV short circuit current 2)	100V	100V
Automatic load disconnect	35A	60A
Maximum efficiency	98%	98%

1a) If more PV power is connected, the controller will limit input power to the stated maximum.

1b) The PV voltage must exceed $V_{bat} + 5V$ for the controller to start. Thereafter the minimum PV voltage is $V_{bat} + 1V$.

2) A higher sort circuit current may damage the controller in case of reverse polarity connection of the PV array

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TECHNICAL ILLUSTRATIONS



SmartSolar Charge Controller
MPPT 100/50

