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SMARTSOLAR MPPT

New SmartSolar MPPT solar charge controllers from Victron Energy.

Regulador Victron Energy SmartSolar MPPT

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Display Victron Energy SmartSolar MPPT

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.

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 SmartSolar algorithm will always maximize energy harvest by locking to the optimum MPP.

Outstanding conversion efficiency

No cooling fan. Maximum efficiency exceeds 99%.

Flexible charge algorithm

Fully programmable charge algorithm (see the software page on our website), and eight pre-programmed 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.

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, PC or other devices

Remote on-off

To connect for example to a VE.BUS BMS.

Programmable relay

Can be programmed (a.o. with a smartphone) to trip on an alarm, or other events.

Optional: pluggable LCD display

Simply remove the rubber seal that protects the plug on the front of the controller, and plug-in the display.

150/85 - 150/100 SPECIFICATIONS

Model	MPPT 150/85	MPPT 150/100
Battery voltage	Auto Select: 12, 24, 48 V Software tool needed to select 36 V	
Rated charge current	85 Amp.	100 Amp
Maximum PV power, 12 V 1a,b)	1200 W	1450 W
Maximum PV power, 24 V 1a,b)	2400 W	2900 W
Maximum PV power, 48 V 1a,b)	4900 W	5800 W
Max. PV short circuit current	70 A	70 A
Maximum PV open circuit voltage	150 V maximum	
Maximum efficiency	99%	
Self-consumption	Less than 35 mA at 12V / 20 mA at 48 V	
Charge voltage (absorption) adjustable	14,4 / 28,8 / 43,2 / 57,6 V	
Charge voltage (float) adjustable	13,8 / 27,6 / 41,4 / 55,2 V	
Charge algorithm	Multi-stage adaptative	
Temperature compensation	- 16 mV / - 32 mV / - 68 mV / °C	
Protection	Battery reverse poarity (fuse, not user accesible) PV Reverse polarity Output short circuit Over temperature	
Operating temperature	-30 a 60 °C (Full rated output up to 40 °C)	
Humidity	95%, non-condensing	
Data communication port	VE.Direct or bluetooth	
Remote on /off	Yes (2 pole connector)	
Programmable relay	DPST AC Rating 240 VAC / 4 A DC Rating 4 A up to 35 Vcc, 1 A up to 60 Vcc	
Parallel operation	Yes (not synchronized)	

ENCLOSURE	
Color	Blue (RAL 5012)
PV Terminals 3)	35 mm2 / AWG2 (Tr models), Three sets of MC4 connectors (MC4 models)
Battery terminals	35 mm2 / AWG2
Protection category	IP43 (electronic components), IP22 (connection area)
Weight	4,5 kg
Dimensions (h x w x d) in mm	Tr Models: 216 x 295 x 103 - MC4 Models: 246 x 295 x 103
STANDARDS	
Safety	EN / IEC 61209

1a) If more PV power is connected, the controller will limit input power to the stated maximum.
1b) PV voltage must exceed Bvat + 5V 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
3) MC4 models: several splitter parts may be needed to parallel the strings of solar panels.
Maximum current per MC4 connector: 30 A (the MC4 connectors are parallel connected to one MPPT tracker)

250/85 - 250/100

Model	MPPT 250/85	MPPT 250/100
Battery voltage	Auto Select: 12, 24, 48 V Software tool needed to select 36 V	
Rated charge current	85 Amp.	100 Amp
Maximum PV power, 12 V 1a,b)	1200 W	1450 W
Maximum PV power, 24 V 1a,b)	2400 W	2900 W
Maximum PV power, 48 V 1a,b)	4900 W	5800 W
Max. PV short circuit current	70 A	70 A
Maximum PV open circuit voltage	250 V maximum	
Maximum efficiency	99%	
Self-consumption	Less than 35 mA at 12V / 20 mA at 48 V	

Charge voltage (absorption) adjustable	14,4 / 28,8 / 43,2 / 57,6 V
Charge voltage (float) adjustable	13,8 / 27,6 / 41,4 / 55,2 V
Charge algorithm	Multi-stage adaptative
Temperature compensation	- 16 mV / - 32 mV / - 68 mV / °C
Protection	Battery reverse poarity (fuse, not user accesible) PV Reverse polarity Output short circuit Over temperature
Operating temperature	-30 a 60 °C (Full rated output up to 40 °C)
Humidity	95%, non-condensing
Data communication port	VE.Direct or bluetooth
Remote on /off	Yes (2 pole connector)
Programmable relay	DPST AC Rating 240 VAC / 4 A DC Rating 4 A up to 35 Vcc, 1 A up to 60 Vcc
Parallel operation	Yes (not synchronized)
ENCLOSURE	
Color	Blue (RAL 5012)
PV Terminals 3)	35 mm2 / AWG2 (Tr models), Three sets of MC4 connectors (MC4 models)
Battery terminals	35 mm2 / AWG2
Protection category	IP43 (electronic components), IP22 (connection area)
Weight	4,5 kg
Dimensions (h x w x d) in mm	Tr Models: 216 x 295 x 103 - MC4 Models: 246 x 295 x 103
STANDARDS	
Safety	EN / IEC 61209

1a) If more PV power is connected, the controller will limit input power to the stated maximum.
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Catálogo General
Bornay 14-15
(10.41 MiB)