SMART SOLAR MPPT

Charge controllers 12V 24V 36V 48V 85A 100A

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 98%.

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.

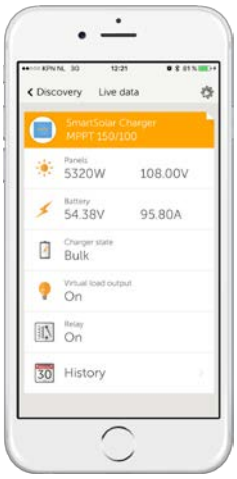
Bluetooth Smart built-in: dongle not needed
The wireless solution to set-up, monitor and update the controller using Apple and Android smartphones, tablets or other devices.

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.



Solar Charge Controller MPPT 150/100-Tr with pluggable display

Solar Charge Controller MPPT 150/100-MC4 without display

SmartSolar Charge Controller	MPPT 150/85	MPPT 150/100
Battery voltage	12 / 24 / 48V Auto Select (software tool needed to select 36V)	
Rated charge current	85A	100A
Maximum PV power, 12V 1a,b)	1200W	1450W
Maximum PV power, 24V 1a,b)	2400W	2900W
Maximum PV power, 48V 1a,b)	4900W	5800W
Max. PV short circuit current 2)	70A	70A
Maximum PV open circuit voltage	150V absolute maximum coldest conditions 145V start-up and operating maximum	
Maximum efficiency	98%	
Self-consumption	Less than 35mA @ 12V / 20mA @ 48V	
Charge voltage 'absorption'	Default setting: 14,4 / 28,8 / 43,2 / 57,6V (adjustable with: rotary switch, display, VE.Direct or Bluetooth)	
Charge voltage 'float'	Default setting: 13,8 / 27,6 / 41,4 / 55,2V (adjustable: rotary switch, display, VE.Direct or Bluetooth)	
Charge algorithm	multi-stage adaptive	
Temperature compensation	-16 mV / -32 mV / -68 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 or Bluetooth	
Remote on/off	Yes (2 pole connector)	
Programmable relay	DPST AC rating: 240VAC / 4A DC rating: 4A up to 35VDC, 1A up to 60VDC	
Parallel operation	Yes (not synchronized)	
ENCLOSURE		
Colour	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	4,5kg	
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 62109	

1a) If more PV power is connected, the controller will limit input power to the stated maximum.
1b) PV voltage must exceed Vbat + 5V for the controller to start.
Thereafter minimum PV voltage is Vbat + 1V.
2) A PV array with a higher short circuit current may damage the controller.
3) MC4 models: several splitter pairs may be needed to parallel the strings of solar panels.
Maximum current per MC4 connector: 30A (the MC4 connectors are parallel connected to one MPPT tracker)

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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
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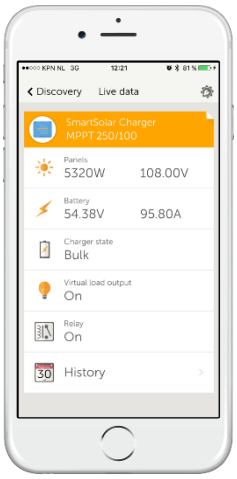
Remote on-off
To connect for example to a VE.BUS BMS.

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.



Solar Charge Controller
MPPT 250/100-Tr
with pluggable display

Solar Charge Controller
MPPT 250/100-MC4
without display

SmartSolar Charge Controller	MPPT 250/85	MPPT 250/100
Battery voltage	12 / 24 / 48V Auto Select (software tool needed to select 36V)	
Rated charge current	85A	100A
Maximum PV power, 12V 1a,b)	1200W	1450W
Maximum PV power, 24V 1a,b)	2400W	2900W
Maximum PV power, 48V 1a,b)	4900W	5800W
Max. PV short circuit current 2)	70A (max 30A per MC4 conn.)	70A (max 30A per MC4 conn.)
Maximum PV open circuit voltage	250V absolute maximum coldest conditions 245V start-up and operating maximum	
Maximum efficiency	99%	
Self-consumption	Less than 35mA @ 12V / 20mA @ 48V	
Charge voltage 'absorption'	Default setting: 14,4 / 28,8 / 43,2 / 57,6V (adjustable with: rotary switch, display, VE.Direct or Bluetooth)	
Charge voltage 'float'	Default setting: 13,8 / 27,6 / 41,4 / 55,2V (adjustable: rotary switch, display, VE.Direct or Bluetooth)	
Charge algorithm	multi-stage adaptive	
Temperature compensation	-16 mV / -32 mV / -68 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 or Bluetooth	
Remote on/off	Yes (2 pole connector)	
Programmable relay	DPST AC rating: 240VAC / 4A DC rating: 4A up to 35VDC, 1A up to 60VDC	
Parallel operation	Yes (not synchronized)	
ENCLOSURE		
Colour	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	4,5kg	
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 62109	

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