PURSUIT OF PERFECTION

SOLAR MATE

MPPT Charger Controller

SP100-20 SP100-40

Solar Mate is a solar charge controller with built in Maximum Power Point Tracking (MPPT) technology, which enables them to increase the output from a solar photovoltaic (PV) array by as much as 30% compared with non-MPPT designs.

Solar Mate can optimize the PV's output and eliminate the fluctuation due to shading or temperature variables. It is a multi-voltage MPPT with built in sophisticated battery charging algorithm for both lead acid battery or lithium-ion battery, of which could support a wide variety of system designs. Meanwhile, the data management with 365 days of history record can tell user actual performance of its system.

- High dynamic MPPT efficiency up to 99.9%
- High efficiency up to 98.2%
- Excellent performance at sunrise and low solar insulation levels
- Wide MPPT operating voltage range
- Self-consumption: Less than 1mA@12V/ 3mA @ 24V/5mA@48V
- Built in TBB premium II battery charging algorithm for lead acid battery
- Data logging 365 days
- With LCD display
- Communication: Auxiliary contact, RS485 support T-bus
- Bluetooth connectivity is available
- Self cooling design for high reliability

Model No.		SP100-20	SP100-40

Electrical

Nominal battery voltage		12、24 or 48Vdc	
Maximum charging current		20A	40A
Maximum charging power	12Vdc	294W	588W
	24Vdc	588W	1176W
	48Vdc	1176W	2352W
Maximum PV input power	12Vdc	300W	560W
	24Vdc	600W	1200W
	48Vdc	1200W	2400W
Maximum PV open circuit voltage		100Vdc	
MPPT voltage range		(Vbat+5Vdc)~95Vdc	(Vbat+5Vdc)~90Vdc
Max. PV short circuit current		20A	
Max efficiency		98.2% @48Vdc system	
Max MPPT efficiency		99.9%	
Standby power consumption		<2W	
Self-consumption		Less than 1mA@12Vdc/ 3mA @ 24Vdc/5mA@48Vdc	
Charge voltage absorption		Default setting: 14.1Vdc/28.2Vdc/56.4Vdc	
Charge voltage float		Default setting: 13.5Vdc/27Vdc/54Vdc	
Charging algorithum		TBB II multiple stages	
Temperature compensation		Default setting: -3mV/℃/cell	

Others

Display	LED + LCD	
Communication port	RS485, Bluetooth	
Dry contact	30Vdc / 2A	
Remote on / off	Yes (2 pole connector)	
Data logging	365 days of history record, daily, monthly and total production; Real time figure including solar array voltage, battery voltage, charging current, charging power; Record the daily PV start charging time, absorb to floating transfer time, PV power loss time and etc; Real time fault time and information.	
Storage temperature	-40~70℃	
Operating temperature	-40℃ ～ 70℃ (power derated above 50℃)	-40℃ ～ 70℃ (power derated above 25℃)
Humidity	5%~95%, non-condensing	
Altitude	3000m（>2000 power derating）	
Max wire sizes	16mm²	
Protection category	IP21	
Dimension (LxWxH)	205mm*160mm*68.5mm	
Weight (kgs)	1.4kg	
Cooling	Natural cooling	
Standard	EN61000-6-1,EN61000-6-3, EN62109-1	