

SOLAR MATE



MPPT Solar Charge Controller

SP 250V 100A, 70A
150V 120A, 80A, 60A
100V 40A, 20

Solar Mate is a solar charge controller with built in Maximum Power Point Tracking (MPPT) technology, which enable 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 eliminate the fluctuation due to shading or temperatures 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. Meantime, the data management with 365days of history record can tell user actual performance of its system.

- High dynamic MPPT efficiency up to 99%
- High efficiency up to 98%, and European weighted efficiency up to 97.3%
- Max up to 7056W of charging power at 40°C
- Excellent performance at sunrise and low solar insulation levels
- Wide MPPT operating voltage range
- Parallel function, up to 4 units can operate in parallel
- Built in TBB premium II battery charging algorithm for lead acid battery
- Data logging 365days
- Communication : Auxiliary contact, RS485 support \ T-bus



PV Combiner Box (optional)



Model No.	SP100-20	SP100-40	SP150-60	SP150-80	SP150-120	SP250-70	SP250-100
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Electrical

Nominal battery voltage (VDC)	12,24, or 48			24 or 48				
Maximum charging current (A)	20	40	60	80	120	70	100	
Maximum charging power (W)	12VDC	294	588	N/A				
	24VDC	588	1176	1764	2352	3528	2058	2940
	48VDC	1176	2352	3528	4704	7056	4116	5880
Recommended PV (W)	12VDC	300	600	N/A				
	24VDC	600	1200	2250	3000	4500	2700	3750
	48VDC	1200	2400	4500	6000	9000	5400	7500
PV open circuit voltage (Voc) (VDC)	100			150		250		
MPPT voltage range (VDC)	(Vbat+5)~95 (Vbat+5)~90			65~145		65~245		
Max. PV short circuit current (A)	20		40	80				
Max efficiency	98.2% @48Vdc system			98% @48VDC system				
Max MPPT efficiency	99.9%							
Self-consumption (mA)	Less than 1mA@12Vdc/ 3mA @24Vdc/5mA@48Vdc			Less than 60mA@24VDC/37mA @ 48VDC				
Charge voltage 'absorption' (VDC)	Default setting: 14.1/28.2/56.4			Default setting: 28.2/56.4				
Charge voltage 'float' (VDC)	Default setting: 13.5/27/54			Default setting: 27/54				
Charging algorithm	TBB II multiple stages							
Temperature compensation	Default setting: -3mV/°C/cell							
Equalization charging	Programmable							

Other

Display	LED + LCD						
Communication port	RS485						
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°C~70°C						
Operating temperature	-40°C~70°C (power derated above 50°C)	-40°C~70°C (power derated above 30°C)	-25°C~60°C (power derated above 40°C)				
Humidity	5%~95%, non-condensing						
Altitude	3000m (full rated output up to 2000m)						
Max wire sizes (mm ²)	16			35			
Protection category	IP31			IP21			
Dimension (mm)	205x160x65			327.5x293x116.2			353x293x 116.2
Weight (kg)	1.4			7.2			7.5
Cooling	Natural cooling						Forced fan
Standard	EN61000-6-1, EN61000-6-3, EN62109-1						