



MPPT Solar Charge Controller

Solar Mate

250V 100A / 70A

150V 120A / 80A / 60A

100V 30A / 50A

Solar Mate is a solar charge controller with built-in Maximum Power Point Tracking (MPPT) technology, which enables it to increase its PV output 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 temperatures variables. It is a multi-voltage MPPT with built-in sophisticated battery charging algorithm for both lead acid battery or lithium-ion battery, suitable for various system designs. Meantime, it supports data management of 365-day history records, which can tell users the system's actual performance.

- High dynamic MPPT efficiency more than 99.9%
- High efficiency up to 98%, and European weighted efficiency up to 97.3%
- Up to 7056W of charging power at 40°C
- Excellent performance at sunrise and low solar insolation levels
- Wide MPPT operating voltage range
- Parallel function, up to 6 units can be operated in parallel
- Built-in TBB premium II battery charging algorithm for lead acid battery
- Support 365days Data logging
- Communication: Auxiliary contact, RS485 support\T-bus

Model No	SP100-30-BT	SP100-50-BT	SP150-60	SP150-80	SP150-120	SP250-70	SP250-100
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Electrical

Nominal battery voltage (VDC)		12, or 24		24 or 48				48
Maximum charging current (A)		30	50	60	80	120	70	100
Maximum charging power (W)	12VDC	441	735	N/A				
	24VDC	882	1470	1764	2352	3528	2058	N/A
	48VDC	N/A	N/A	3528	4704	7056	4116	5880
Maximum PV input power (W)	12VDC	500	800	N/A				
	24VDC	1000	1600	2250	3000	4500	2700	N/A
	48VDC	N/A	N/A	4500	6000	9000	5400	7500
PV open circuit voltage (Voc) (VDC)		100		150			250	
MPPT voltage range (VDC)		(Vbat+6VDC)~90VDC		65~145			65~245	
Max. PV short circuit current (A)		30	50	40	80			
Max efficiency		≥97%		98%@48VDC system				
Max MPPT efficiency		≥99.9%						
Self-consumption (mA)		Less than 1mA@12VDC/ 3mA@24VDC		37mA @ 48VDC system				
Charge voltage 'absorption' (VDC)		Default setting: 14.1/28.2		28.8/57.6			57.6	
Charge voltage 'float' (VDC)		Default setting: 13.5/27		27/54			54	
Charging algorithm		TBB II multiple stages						
Temperature compensation		Default setting: -3mV/°C/cell						
Equalization charging		N/A		Programmable				

Other

Display	LED indicator		LED+LCD					
Communication port	RS485, CAN, Bluetooth		RS485					
Dry contact	N/A		30Vdc/2A					
Remote on / off	N/A		Yes (2 pole connector)					
Data logging	365-day historical records, including daily, monthly, annual power generation, total power generation records, historical operation event records, user operation logs, etc.		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 over 40°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	IP20		IP21					
Dimension (L*W*H) - mm	199*160 *74	199*160 *94	325.2*293*116.2					352.2*293 *116.2
Weight (kg)	1.4	1.85	6.8	7.0	7.2	7.0	7.8	
Cooling	Natural cooling						Forced fan	
Standard	UL1741, ECE-R10, IEC62109-1, EN61000-6-1, EN61000-6-3		EN61000-6-1,EN61000-6-3, EN62109-1					