

MPPT Solar Charge Controller

SOLAR MATE

-12vdc/24vdc

SF100-30 / SF100-50 / SP100-20 / SP100-40 / SP100-50



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 (for SP series).

Features

- High dynamic MPPT efficiency up to 99.9%
- High efficiency up to 98%
- Excellent performance at sunrise and low solar insolation levels
- Wide MPPT operating voltage range
- Self-consumption: Less than 1mA@12V/ 3mA @ 24V
- Built in TBB premium II battery charging algorithm for lead acid battery
- With LCD or LED display
- Communication: Auxiliary contact, RS485, CAN, Bluetooth

Model No.	SF100-30	SF100-50	SP100-20	SP100-40	SP100-50
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Electrical

Nominal battery voltage	12 or 24Vdc					
Maximum charging current	30A	50A	20A	40A	50A	
Maximum charging power	12Vdc	432W	720W	288W	576W	720W
	24Vdc	864W	1440W	576W	1152W	1440W
Maximum PV input power	12Vdc	500W	800W	300W	600W	800W
	24Vdc	900W	1500W	600W	1200W	1600W
Maximum PV open circuit voltage	100Vdc					
MPPT voltage range	(Vbat+5Vdc)~90Vdc		(Vbat+6Vdc)~95Vdc	(Vbat+6Vdc)~90Vdc		
Max efficiency	98% @12Vdc system		98% @24Vdc system			
Max MPPT efficiency	99.5%		99.9%			
Standby power consumption	<2W					
Self-consumption	Less than 1mA@12Vdc/ 3mA @ 24Vdc					
Charge voltage absorption	Default setting: 14.1Vdc/28.2Vdc					
Charge voltage float	Default setting: 13.5Vdc/27Vdc		Default setting: 13.7Vdc/27.4Vdc			
Charging algorithm	TBB II multiple stages					
Temperature compensation	Default setting: -3mV/°C/cell					

Others

Display	LED	LED + LCD			
Communication port	RS485/ CAN	RS485/ Bluetooth			
Dry contact	NA	30Vdc / 2A			
Remote on / off	NA	Yes (2 pole connector)			
Data logging	NA	Yes			
Storage temperature	-40~70°C				
Operating temperature	-40°C ~ 60°C (power derated above 30°C)	-40°C ~ 70°C (power derated above 50°C)	-40°C ~ 70°C (power derated above 30°C)	-40°C ~ 70°C (power derated above 25°C)	
Humidity	5%~95%, non-condensing				
Altitude	3000m (>2000 power derating)				
Max wire sizes	16mm ²				
Protection category	IP20	IP31			
Dimension (LxWxH) (mm)	175*95*76	205*160*68.5		205*160*90	
Weight (kgs)	0.82kg	1.4kg		1.6kg	
Cooling	Forced fan		Natural cooling		
Standard	ECE-10R-06, EN/IEC 62109-1, UL1741, CSA C22.2		ECE-10R-06		