SOLAR MATE

MPPT Solar Charge Controller



12/24VDC



SF100-30 / SF100-50

With MPPT technology, the SF100 series solar charge controller enables maximum energy tracking for solar charging. This technology allows the controller to track the maximum power point of an array quickly and accurately in any environment, obtain the maximum energy of solar panel in real time, and charge the battery at maximum current.

The SF100 series controller has a built-in multi-stage battery charging algorithm, along with an MPPT algorithm that allows for wide voltage input ranges. This makes this controller suitable for charging various types of batteries, in cluding Gel, AGM, Lithium, and traditional Lead-acid batteries. It has built in RS485 and CAN communication capabilities for system integration, as well as built in Bluetooth transmitter for monitoring and controlling from a smartphone or tablet via the Solar Mate II app. The controller will also store data regarding historical events, daily power generation, monthly power generation, and total power generation.

Features

- Fan cooling
- Wide MPPT voltage range
- High conversion efficiency, the Max. efficiency ≥97.2%
- High MPPT efficiency, the Max. efficiency ≥99.9%
- Adaption on 12Vdc/ 24Vdc battery
- Built-in battery temperature compensation feature
- Support RS485, CAN and Bluetooth communication
- Support wide operation temperature, charging during -40℃~60℃
- Support 365 days real-time data recording, event recording and power statistics



Model NO.	SF100-30	SF100-50
Electrical		
Battery Voltage (Adaptive) (V)	12 / 24	
Rated Charging Current (A)	30	50
PV Max Power, @12V 1), 2) (W)	500	800
PV Max Power, @24V 1), 2) (W)	1000	1600W
Max. PV Open Circuit Voltage (V)	100	
PV Operation Voltage Range (V)	Vbat + 5 ~ 90	
Max. PV Short Circuit Current (A)	20	
Max. Conversion Efficiency	97.2%@24V	
Max. MPPT Efficiency	99.9%	
Battery Type	GEL / OpzV, AGM, LFP, WET/ FLOODED	
Communication	RS485 / CAN (RV-C) / Bluetooth	
Insulation Resistance (MΩ)	≥10	
Protections	Output Overvoltage, PV reversed polarity, Over-temperature, Output Short Circuit	
Environment		
Operation Temp (°C)	-40 ~ 60	
Altitude (m)	5000	
Structure		
Cooling	Fan cooling	
IP Rating	IP20	
Dimension (mm)	189.6 x 116.0 x 76.0	
Weight (kg)	0.82	
Standard		
Safety	UL1741, IEC62109-1	

1) SF will limit the input power if the PV panels output too much energy.

2) Only the PV input voltage > battery voltage +5V, SF will start charging.