

MPPT Charger Controller

MPPT Controller General Information

Overview

Controller based on multiphase synchronous rectification technology(MSRT)and advanced MPPT control algorithm , has the features of high response speed , high reliability, and high industrial standard . MSRT can guarantee very high conversion efficiency in any charge power, which sharply improves the energy efficiency of solar system; Advanced MPPT control algorithm minimize the maximum power point loss rate and loss time, to ensure the tracking efficiency, corresponding speed as well as high conversion efficiency under high or low power, so that in any situation, products can rapidly track the maximum power point(MPP) of PV array to obtain the maximum energy of the panel. The limitation function of the charging power and current, and automatic power reduction function fully ensure the stability when works with oversize PV modules and operate under high temperature environment.

With the adaptive three-stage charging mode based on digital control circuit, controllers can effectively prolong the life-cycle of battery and significantly improve the system performance.

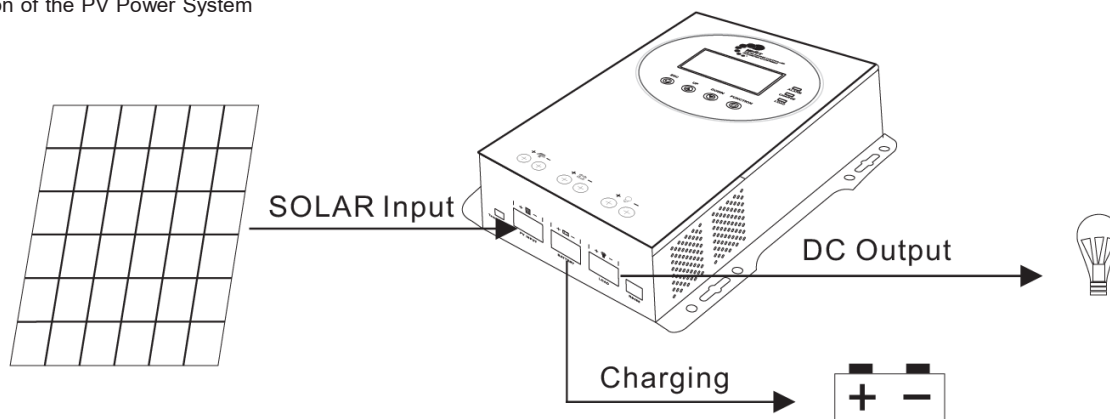
All-around electronic protections, including overcharging, over discharging, and PV reverse polarity protection, effectively ensure the safer and more reliable operation of the solar system for a longer service time.



Features:

1. Advanced MPPT technology & ultra-fast tracking speed, with tracking efficiency no less than 99.5%.
2. Maximum DC/DC transfer efficiency is as high as 98.5%, full load efficiency is up to 97%.
3. Advanced MPPT control alorithm will minimize the MPP loss rate and loss time.
4. The accuracy of the recognition and tracking at the highest point of multiple-peaks MPP.
5. The wider range of MPP operating voltage.
6. Auto control system to limit the charging power & current go over the rated value.
7. Support 3 charging options: Sealed, Gel, Flooded.
8. It has a settable battery temperature compensation function.
9. Real-time energy recording and statistical function.
10. Automatic over-temperature power reduction function.
11. It has the protection function of photovoltaic panel input reverse connection and battery reverse connection.

Connection of the PV Power System



Technical Data

Model	S-TF-40415	S-TF-60415	S-TF-80415	S-TF-100415
System rated voltage	12/24/36/48VDC or self-identification			
Controller operating voltage range	11~64V			
Lead-acid battery type	Maintenance-free (default)/colloid/liquid/custom			
Lithium battery type	Lithium Iron Phosphate/Ternary Lithium/Custom			
Rated charging current	40A	60A	80A	100A
Rated charging power	540W/12V 1080W/24v 1620W/36v 2160W/48v	800W/12v 1600W/24v 2400W/36v 3200W/48v	1080W/12V 2160W/24V 3240W/36V 4320W/48V	1300W/12V 2600W/24V 3900W/36V 5200W/48V
Maximum open circuit voltage of photovoltaic modules	150V (under the lowest temperature condition) 138V (under 25°C condition)			
Maximum power point operating voltage range	(Battery voltage +5V) ~ 138V (at 25°C)			
Tracking efficiency	≥99.5%			
Maximum conversion efficiency	97.5%			
Temperature compensation coefficient	-3mV/°C/2V			
Static loss	700mA/12V;300mA/24V;150mA/48V;100mA/96V			
DC load output voltage	Can be turned on in 12/24V mode			
DC load rated output current	40A			
DC load output control	Normally open normally closed mode/time control mode/light control mode			
Protective function	PV input reverse connection protection, battery input reverse connection protection, battery overcharge protection, battery undervoltage protection, battery over temperature protection, machine over temperature protection			
Cooling method	Wind cooling			
way of communication	RS485			
LCD backlight time	Default 60S, backlight mode can be set			
Environmental parameters				
Working environment temperature range	-20°C~+50°C			
Storage temperature range	-40°C~+70°C			
Relative humidity range	0~90%RH			
Mechanical parameters				
parameter	40415F	60415F	80415F	100415F
Dimensions	219*260*110mm	219*260*110mm	275*348*109mm	275*348*109mm
Recommended wiring	7AWG/10mm ²	6AWG/16mm ²	4AWG/25mm ²	2AWG/35mm ²
Weight (kg)	2.8kg	2.8kg	5.2kg	5.2kg

Ordering information				
Model No.	S-TF-40415	S-TF-60415	S-TF-80415	S-TF100415
Part No.	608201	608202	608203	608204
Packing unit.	1 pc(s).			

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