



Features:

- Applicable to various types of batteries
- MPPT function
- Microprocessor controller pulse width modulation (PWM) charging
- Temperature sensor battery charging compensation
- Overload protection (automatic restoration)
- Overcharge protection
- Short circuit protection (automatic restoration)
- Thunder protection
- Reverse discharge protection
- Reverse polarity connection protection (automatic restoration)
- Under voltage protection

MPPT10, 30 and 50 Solar Controllers

This MPPT solar controller (also known as intelligent solar charge controller, solar charge controller, PV controller) can intelligently regulate the working voltage of solar panels, letting the solar panels always work at maximum power point of V-A curve. Compared with ordinary solar controller, this MPPT controller can increase the efficiency of PV modules by 10% to 30%. MPPT solar controllers 10 A to 60 A include 12 V series, 24 V series and 48 V series.

MPPT Advantage

Maximum power point tracking (MPPT in short) system is a system which allows PV panels to outputs more power by adjusting working condition of the electrical module. In figure 1 A indicates that the ordinary controller, which makes PV battery work on 12 V, only outputs a power point of 53 W (a general power point), B indicates that MPPT controller makes PV battery always work at the maximum power point, thus outputs the power point of 75 W (the maximum power point).

MPPT Principle

The maximum power point is mainly affected by the ambient temperature and the intensity of sunshine. The intensity of sunshine being constant, the maximum output power decreases with the rise of the temperature. The temperature being constant, when the sunshine intensifies, the open circuit voltage of PV battery basically keeps unchanged. But the short circuit current increases substantially, thus the maximum output power increases substantially.

This MPPT solar controller can intelligently regulate the working voltage of solar panels, letting the solar panels always work at Maximum Power Point of V-A curve. Compared with ordinary solar controller, this MPPT controller can increase the efficiency of PV modules by about 30%.

However, due to many different factors, such as the difference in solar panel making, the change the Sun luminance, change in temperature, the efficiency of the controller etc., the actually available increased rate is 10% to 30%.

Technical Index

Model	MPPT10	MPPT30	MPPT50
Rated Voltage	12 V / 24 V / 48 V		
Maximum Load Current	10 A	30 A	50 A
Input Current Range	12 V to 20 V / 24 V to 40 V / 48 V to 80 V		12 V to 17 V / 24 V to 34 V / 48 V to 60 V
Length ≤1 m Charge Loop Drop	-0.25 V		
Length ≤1 m Discharge Loop Drop	-0.05 V		
Over Voltage Protection	17 V / 34 V / 48 V		17 V / 34 V / 58 V
Full Charge Cut	13.7 V / 27.4 V / 54.8 V		
Low Voltage Cut	10.5 to 11 V / 21 V to 22 V / 42 V to 43 V		10.5 to 11 V / 21 V to 22 V / 42 V
Temperature Compensation	-3 mv / -/cell		
No Load Loss	≤10 mA	≤20 mA	≤30 mA
Maximum Wire Area	2.5 mm ²	4 mm ²	6 mm ²
Ambient Temperature	-25° to 55°		

Part Number Table

Description	Part Number
Battery Charger, MPPT, Solar 10 A	MPPT10A-12/24
Battery Charger, MPPT, Solar 30 A	MPPT30A-12/24
Battery Charger, MPPT, Solar 30 A	MPPT30A-48
Battery Charger, MPPT, Solar 50 A	MPPT50A-48

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