

Solar Controller



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

MPPT15, 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 15A to 60A include 12V series, 24V series and 48V 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 12V, only outputs a power point of 53W (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 75W (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%.

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Technical Index

Model	MPPT15	MPPT30	MPPT50
Rated Voltage	12V / 24V / 48V		
Maximum Load Current	15A	30A	50A
Input Current Range	12V to 20V / 24V to 40V / 48V to 80V		12V to 17V / 24V to 34V / 48V to 60V
Length ≤1 m Charge Loop Drop	-0.25V		
Length ≤1 m Discharge Loop Drop	-0.05V		
Over Voltage Protection	17V / 34V / 48V		17V / 34V / 58V
Full Charge Cut	13.7V / 27.4V / 54.8V		
Low Voltage Cut	10.5V to 11V / 21V to 22V / 42V to 43V		10.5V to 11V / 21V to 22V / 42V
Temperature Compensation	-3mv / -/cell		
No Load Loss	≤15mA	≤20mA	≤30mA
Maximum Wire Area	2.5mm ²	4mm ²	6mm ²
Ambient Temperature	-25°C to 55°C		

Part Number Table

Description	Part Number
Battery Charger, MPPT, Solar 15A	MPPT15A-12/24
Battery Charger, MPPT, Solar 30A	MPPT30A-12/24
Battery Charger, MPPT, Solar 30A	MPPT30A-48
Battery Charger, MPPT, Solar 50A	MPPT50A-48