



## 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 Controller

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%-30%. MPPT solar controllers 10A--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 figure1 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%-30%.

# Solar Controller



## Technical index

Model	MPPT10	MPPT30	MPPT50
Rated voltage	12V/24V/48V		
Max load current	10A	30A	50A
Input current range	12V-20V/24V-40V/48V-80V		12V-17V/24V-34V/48V-60V
Length ≤1m Charge loop drop	-0.25V		
Length ≤1m 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	10.5-11V/21V-22V/42V-43V		10.5-11V/21V-22V/42V
Temperature compensation	-3mv/-cell		
No load loss	≤10mA	≤20mA	≤30mA
Maximum wire area	2.5mm <sup>2</sup>	4mm <sup>2</sup>	6mm <sup>2</sup>
Ambient temperature	-25° to 55°		

## Part Number Table

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

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2010.

<http://www.farnell.com>  
<http://www.newark.com>  
<http://www.cpc.co.uk>

