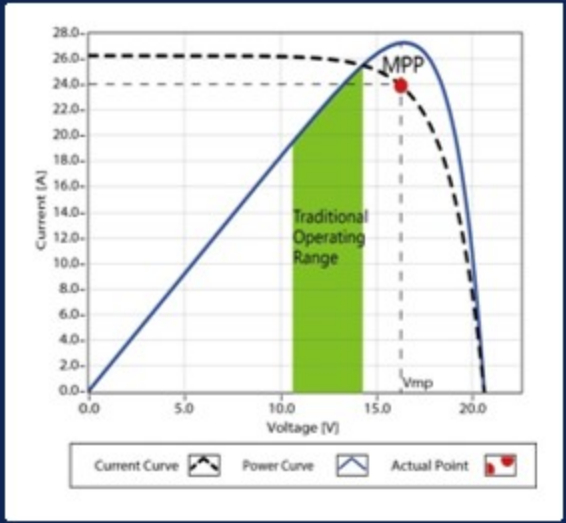
MPPT Solar Charger Controller

SUNSHINE FOR YOU MULTIFIT TO ALL

Maximum power point tracking technology

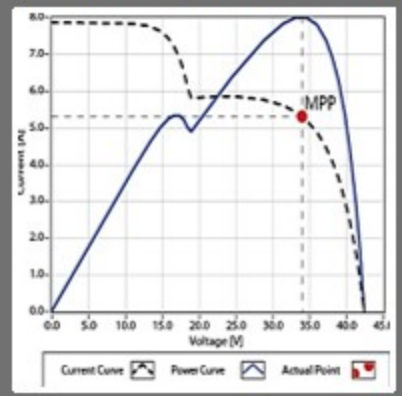


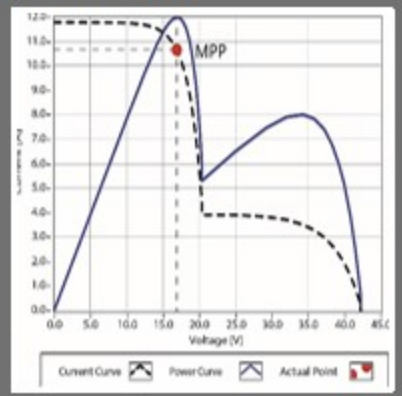
MPPT controller can improve the utilization efficiency of the solar array by 20% - 60% better than the PWM controller (the efficiency changes according to the different usage environment background).

In practical application, multiple MPPT points may occur in the array due to the blocking of clouds, branches, or snow cover, but only one of these MPPT points is the actual maximum power point, as shown in the figure below:

When multiple MPPT points appear, if the MPPT algorithm is improperly handled, it will work on non-MPPT points. In this case, the conversion efficiency is low. The maximum power point tracking algorithm designed by our controller can quickly and accurately track the actual MPPT points, improve the utilization rate of array energy, and avoid the waste of resources.

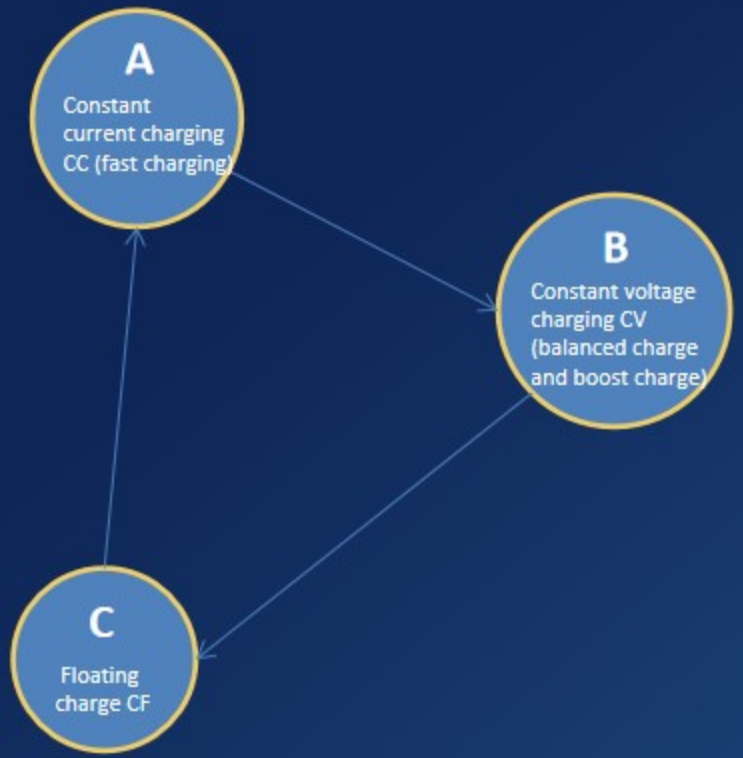
Bimodal map of maximum power point tracking



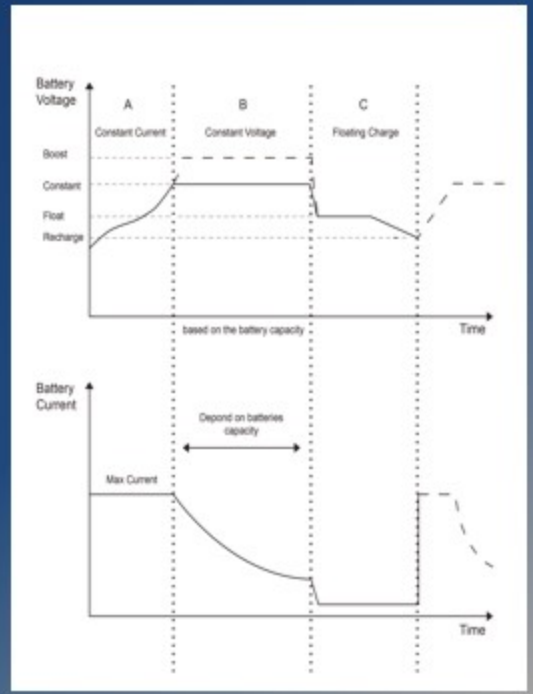


Battery Charging Stage

The controller has a three stages charging mode, which are constant current charging CC (fast charging), constant voltage charging CV (balanced charge and boost charge)and floating charging CF. Through these fast, efficient and safe battery charging modes, the system can effectively extend the service life of the battery.



The battery voltage has not reached the full voltage set point, and the controller will conduct MPPT charging, which will provide the maximum solar power to charge the battery.
When the battery voltage reaches the preset value.the controller will charge with a constant voltage.
After the continuous charging phase, In the floating charging stage, the load can get almost all of the solar power. If the load exceeds the solar power supply, the controller will be unable to maintain the battery voltage at the floating charge stage. When the battery voltage is low onto the upgrade recovery charging set point, the system will exit the floating charging stage and enter the constant current charging stage again.



Product Features

PROJECT DESCRIPTION

USED IN STREET LIGHT SOLAR SYSTEMS

Features

MUC-MB series adopted with auto cool, high conversion efficiency, LCD display and free PC software. It features an efficient MPPT control algorithm to track the maximum power point of the PV array in any environment, Greatly improve the utilization of solar panel. For the MPPT controller can be widely used in off-grid solar system, communication base station solar system, household solar systems, street light solar systems,field monitoring and other fields.

Humanized Design

01

Muliple protection

02

Intelligent control

03

Efficient heat dissipation

04

Easy installation

05

UP to 98% efficiency

Products has its own unique advantages

PROJECT DESCRIPTION

All kinds of working status

All kinds of working status are directly displayed on the screen, easy for users to access.

High voltage battery system solutions

Wide adaptation to high voltage battery systems and provide solutions for special applications.

Business Model

Accepting a wide range of input photovoltaic voltage,our MPPT contorller is suitable for a variety of common solar panel specifications.

The parallel machine function

Expand the parallel machine function to meet the application of multiple products combinations.

Products has its own unique advantages

PROJECT DESCRIPTION

Efficient MPPT controller algorithm

MPPT efficiency is not less than 99.5%, the whole MPPT conversion efficiency can be up to 98%.

Charging mode

Three charging phases (constant current, constant pressure, floating charge), can effectively extend the lifespan of the battery.

The load mode

The Load mode： constant on / off mode and light control mode.

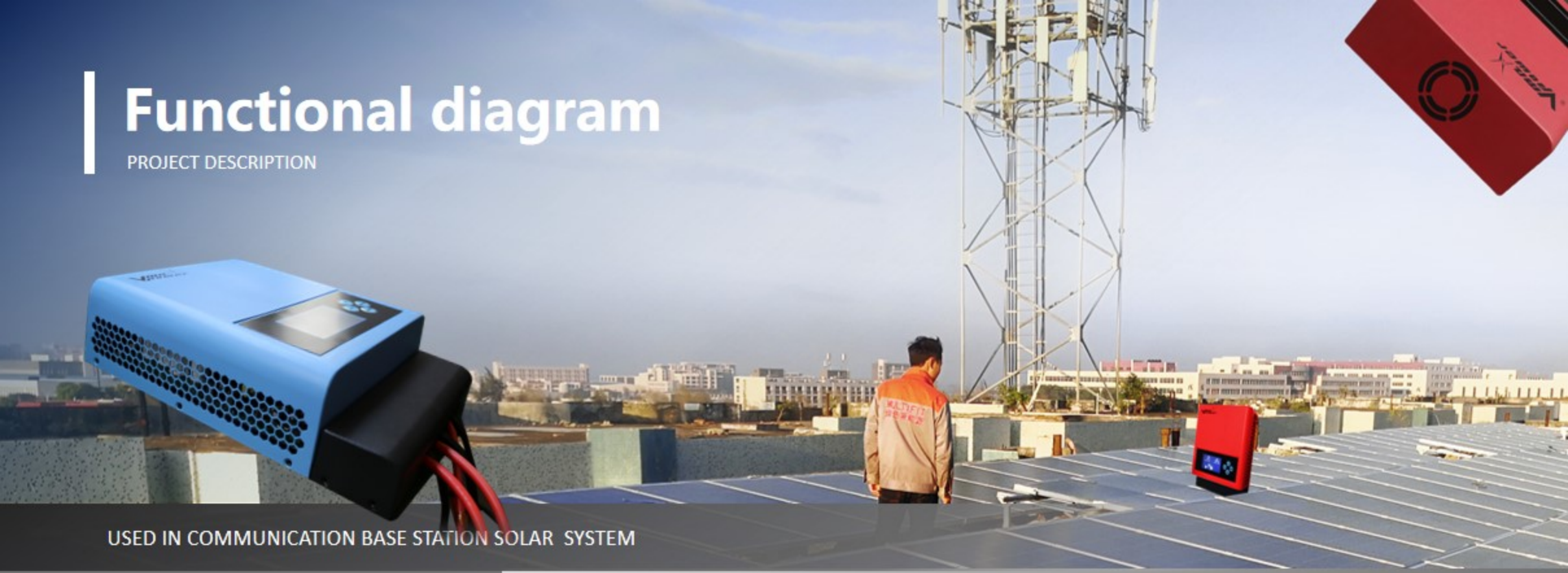
Current-limiting charging function

When the user's panel power is too large, the controller automatically maintains the charging power, and the charging current will not exceed the rated value.

- Support multi-machine parallel, to achieve the system power upgrade.
- With HD LCD display function, you can view the device functioning data and working status.
- Approved by CE, ROHS, FCC certification; can meet customers requirements about all different kinds of certification.
- The warranty is 2 years. It can be extended to 3 upto 10 years of warranty service.

Functional diagram

PROJECT DESCRIPTION

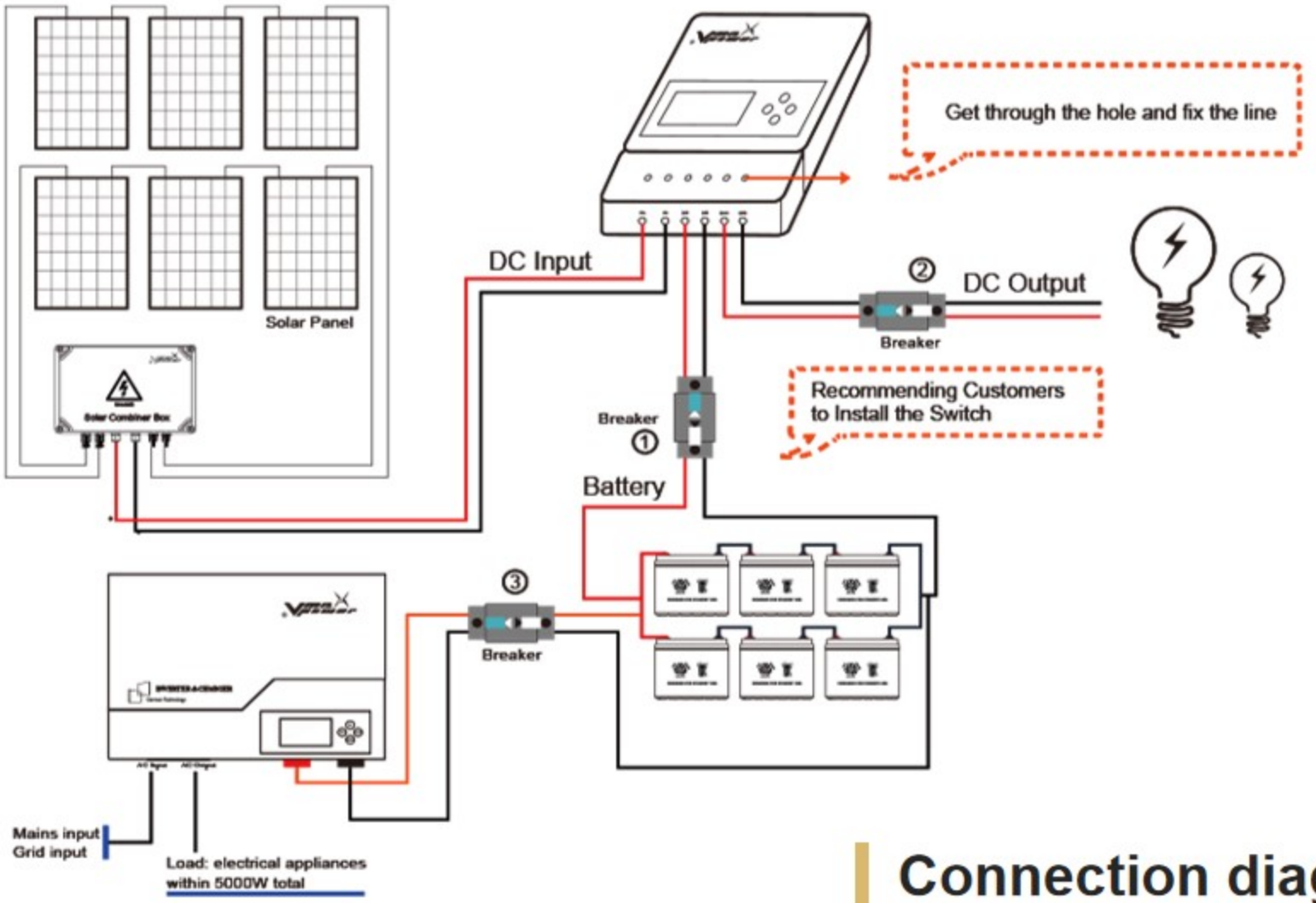


USED IN COMMUNICATION BASE STATION SOLAR SYSTEM

Note

MUC-MB series MPPT Solar charger controller, Clean fan vents and internal radiator regularly, and wipe with dry or slightly wet towel;

Note: Do not use the washing liquid or the corrosive solvent to be cleaned. The liquid is not allowed to flow into the machine, to ensure that the ventilation hole of the equipment is not blocked.



Connection diagram of the solar energy charging system

Technical Parameter

PROJECT DESCRIPTION

USED IN HOUSEHOLD SOLAR SYSTEM

Properties

MUC-MB series MPPT Solar charger controller

Operating ambient temperature:-20℃~+50℃

storage temperature: -40℃~+75℃

IP levels of protection: IP43

Maximum wiring size: 35mm²

Technical Parameters

PROJECT DESCRIPTION

System voltage identification range

DC9V~DC15V（12V sys）\DC18V~DC30V(24V sys)\

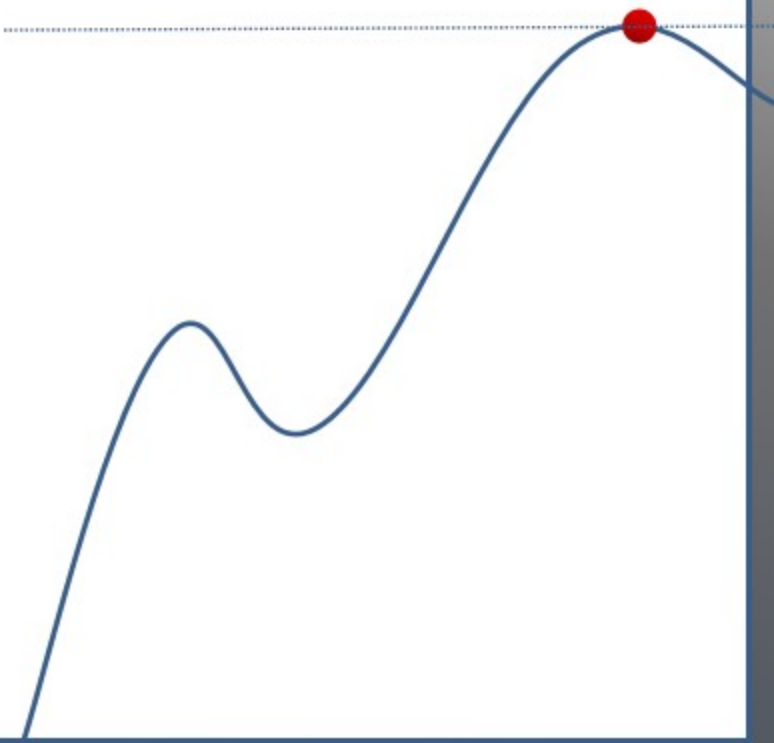
DC32V~DC40V(36V sys)\DC42V~DC60V(48V sys)

MPPT productiveness

≥99.5%

system voltage

automatic recognition



Heat dissipation method :
Natural cooling

MUC-MB 40A / 50A / 60A

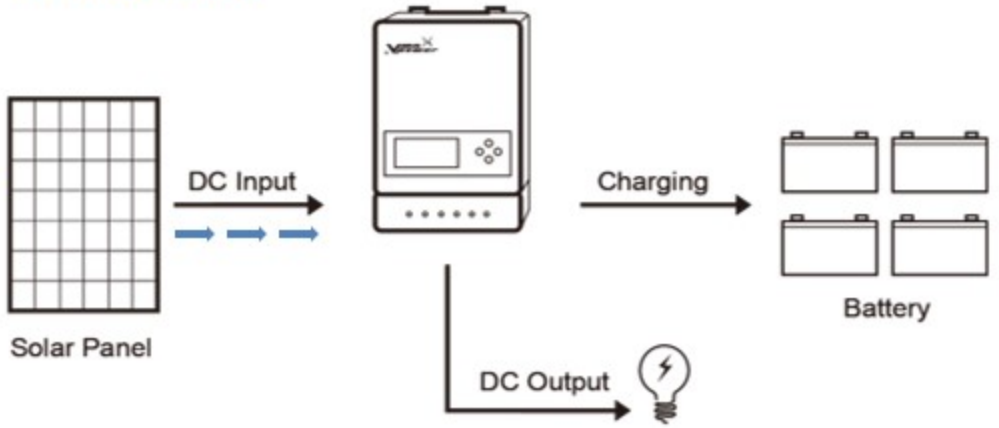
Controller with maximum power point tracking (MPPT) function

Input Characteristics

Technical parametersof

MPPT Solar Charger Controller

- **PV maximum open circuit voltage (VOC) :DC150V**
- **Start the charging voltage point: Is 10V higher than the battery voltage**



Input the low-voltage protection point

Enter the overvoltage protection point: DC150V

Enter the overvoltage recovery point: DC145V

MUC-MB 40A/50A:
2V above the current battery voltage

MUC-MB 60A:
5V above the current battery voltage

Solar Panel Rating Interiorinput Power

Technical parametersof

	MUC-MB 40A	MUC-MB 50A	MUC-MB 60A
12V System	600W	700W	850W
24V System	1000W	1200W	1500W
36V System	1500W	1800W	2200W
48V System	2000W	2500W	3000W

SOLAR PANEL

Charge Characteristic

Technical parametersof

Sealed lead acid batteries

Lithium batteries

Colloidal lead acid batteries

Battery selection parameters corresponding to the controller12V / 24V / 36V / 48V

Charging rated current：40A	⟷	controller: MUC-MB 40A
Charging rated current：50A	⟷	controller: MUC-MB 50A
Charging rated current：60A	⟷	controller: MUC-MB 60A

MPPT Solar Charger Controller

- **Output stability precision:≤±1.5%**
- **Charging method: Three stages: constant current (fast charge), constant pressure, floating charge**

Load Characteristic

Technical parametersof

Load Voltage:
DC9V ~ DC15V(12V sys)
DC18V ~ DC30V(24V sys)
DC32V ~ DC40V(36V sys)
DC42V ~ DC60V(48V sys)

Rated load current: 40A / 50A / 60A

DC Output

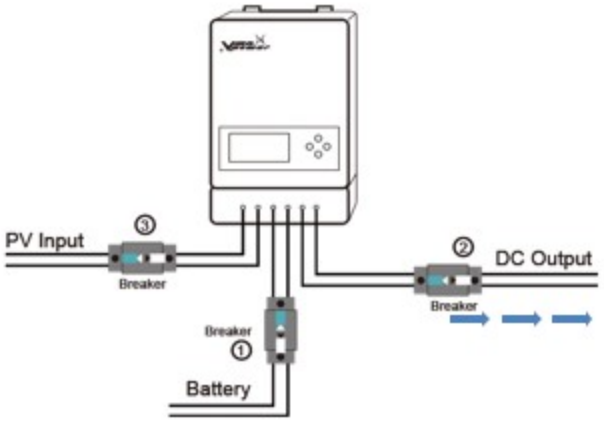
Ceiling Light...

Fan

Camera

MPPT Solar Charger Controller

- **low voltage protection: The default is 11V**
- **Load control method: Open mode / normal off mode / light control mode**



Defencive Function

Technical parametersof

Net weight: 2.4kg
rough weight: 2.7kg

Short circuit protection

Reverse connection protection

Overvoltage protection

Over discharge protection

Equalizing chargge

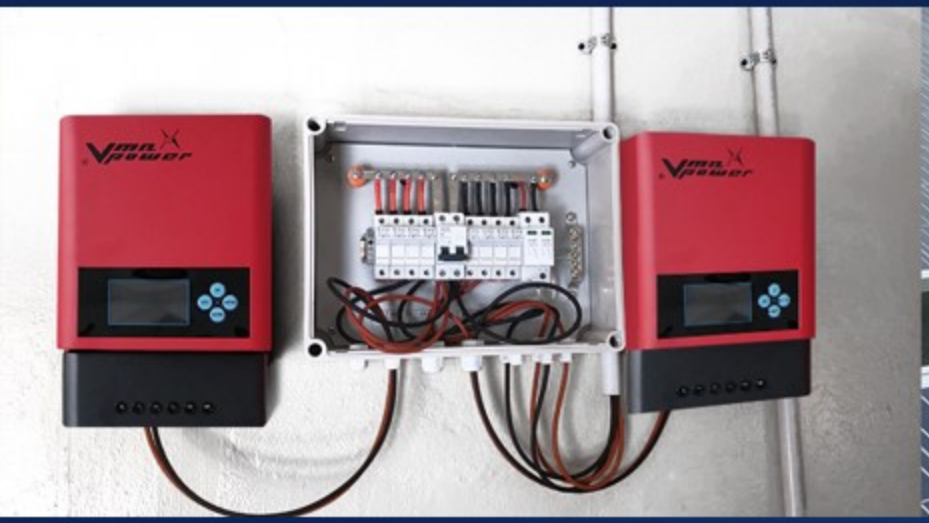
Current limiting power protection

Equipment overheating protection

Low voltage protection

Product Case

PROJECT DESCRIPTION



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