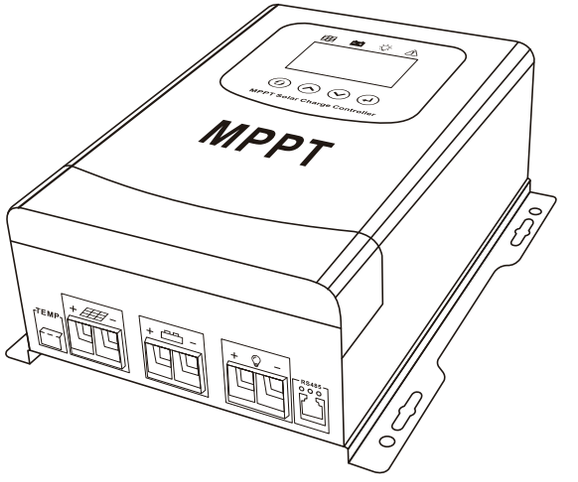
MPPT Solar Charge Controller

MPPT 太阳能控制器

User manual

使用说明书



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01 /产品概述

感谢您选择本公司生产的新一代MPPT控制器，它是一款根据最新技术研发的产品，代表最新光伏技术发展水平，拥有许多优秀的性能。

基本功能：

- 创新性的最大功率点跟踪技术，可显著提高太阳能系统能量利用率，转换效率高达97%；
- 快速扫描整个I—V曲线，高效跟踪最大功率点；
- 密封、胶体、开口式三种类型铅酸蓄电池和锂电电池系列充电程序可选；
- 具有过充、过放、过载、短路自动保护功能；
- RS485通信接口，可以多机通信，方便查看控制器的运行参数；

02 / MPPT控制器的特点

本控制器用于太阳能离网发电系统中，自动调节蓄电池充电和放电。它具有先进的跟踪算法，来获取太阳能电池组件的最大功率，给蓄电池进行充电；同时，其低压断开(LVD)功能，可以防止蓄电池过度放电而造成损坏。

MPPT控制器的蓄电池充电过程是经过优化的，能够延长蓄电池寿命，改善系统性能。其全面的自测功能和电子保护功能可以避免由于安装错误和系统故障而导致的损坏。尽管控制器易于操作和使用，为了让您能够更好地使用控制器的所有功能，改善您的光伏系统，请认真阅读本手册中的指示和说明。

03/注意事项

本手册介绍了有关 MPPT太阳能充电控制器相关操作。

有效性：本手册适用于我司各型号的 MPPT太阳能充电控制器。

目标群体: 本手册适用于安装者和操作者。

在安装和操作控制器前,请先阅读并且请务必妥善保管，以便查阅。

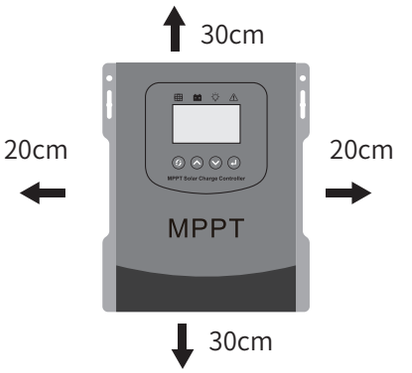
符号说明: 以下是出现在本使用手册的标志类型的说明。

04/安装与连接方法

1、安装安全距离：

遵守下列安全间隙,确保其它设备或物体不在这个范围之内,以确保有足够的散热空间。

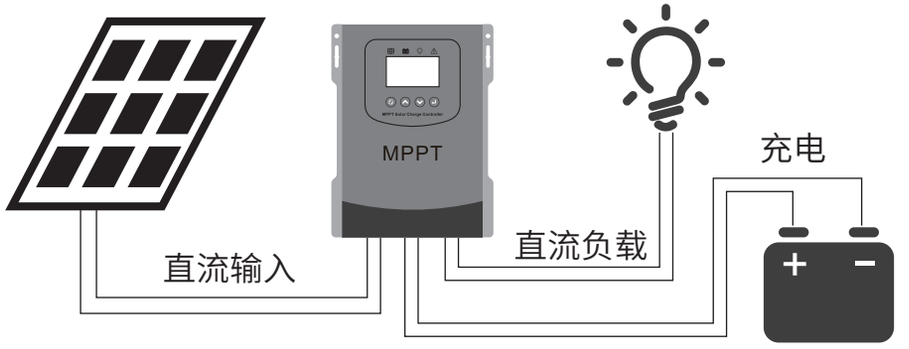
方向	安全距离
左右	20cm
上面	30cm
下面	30cm



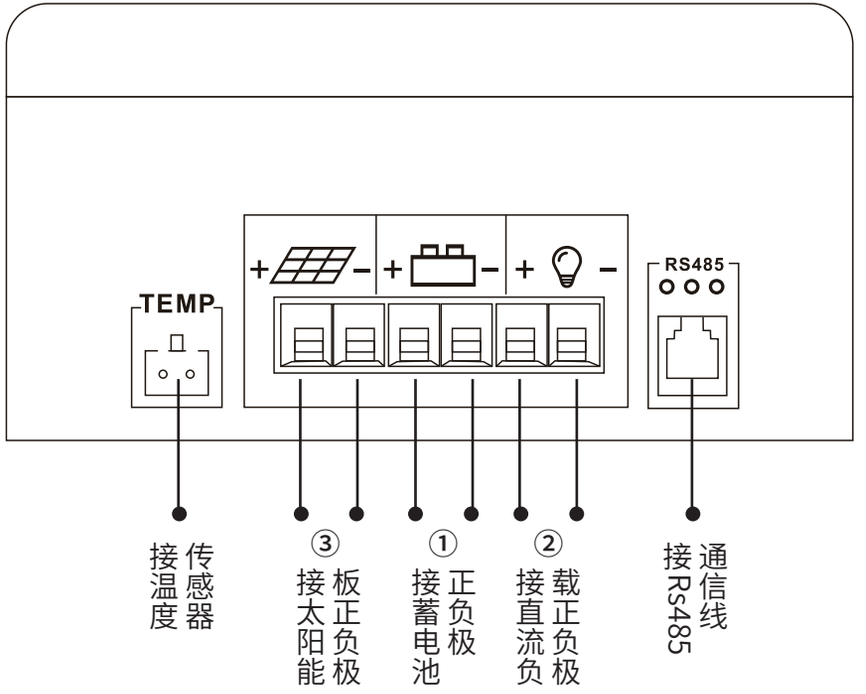
2、线路连接方法：

太阳能控制器的正确接线顺序如下：

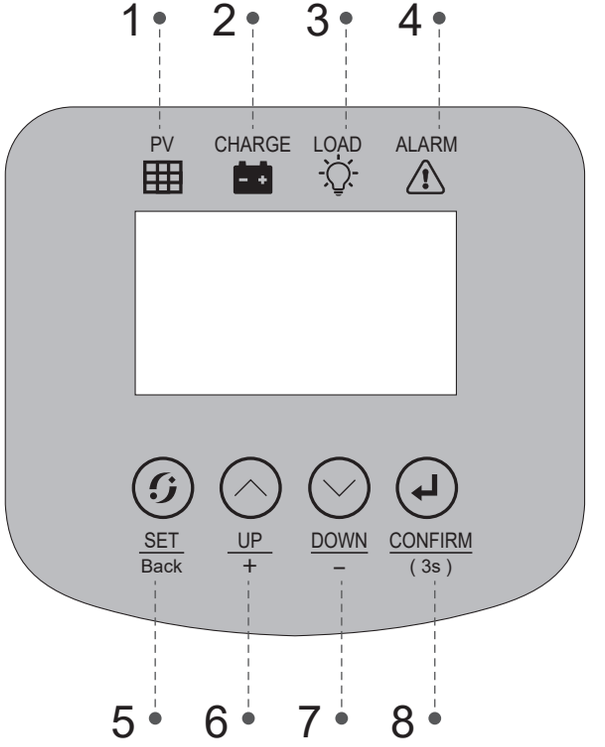
1. 首先接蓄电池的正负极；
2.接直流负载的正负极；
3.最后接太阳能板的正负极。



（接线示意图）

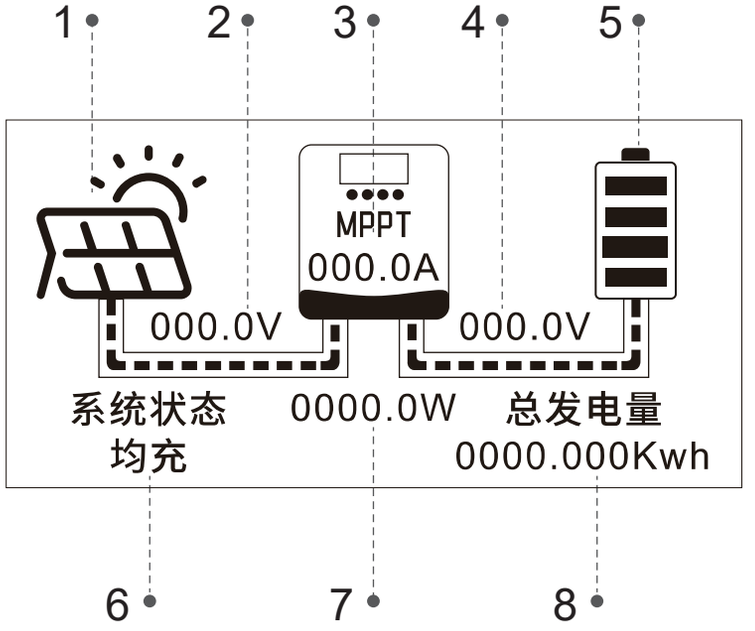


05/按键操作说明



编号	名称	编号	名称
1	太阳能板指示灯	5	设置 /返回
2	充电指示灯	6	向上翻按键
3	直流负载指示灯	7	向下翻按键
4	警示指示灯	8	确认键 (长按3秒)

06/LCD 主界面说明



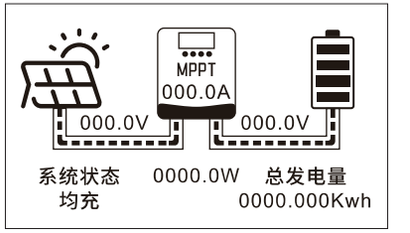
（系统默认主界面）

编号	名称	编号	名称
1	太阳能板	5	电　池
2	太阳能输入电压	6	系统状态指示
3	控制器充电电流	7	控制器发电瓦数
4	控制器充电电压	8	控制器总发电量

07/参数设置操作步骤

在默认主界面下按 SET键进入主菜单，按DOWN或UP键查看子菜单

按 ⓢ 键，进入主菜单



→ 语言设置
直流输出设置
电池类型设置
充电电流设置
恢复出厂设置

选择相应的内容，
按 ↵ 键进入设置

❶ 语言设置

有中文和English
两种语言可供选择

语 言 设 置
→ 中文
English

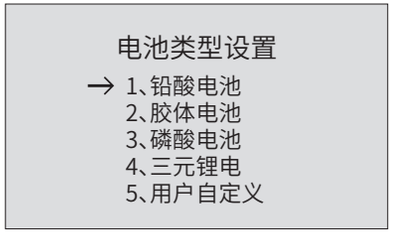
直流输出设置
→ 开
关

❷ 直流输出设置

点击选择开启或关
闭直流负载

❸ 电池类型设置

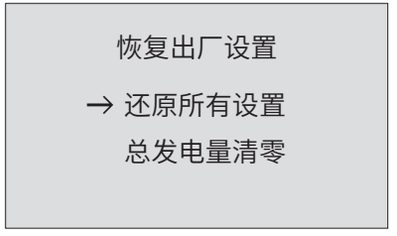
内置4种电池可供选择，且用户自行增加电池类型。



选择电池类型后，点击进入即可设置需要的电压伏数。

❹ 充电电流设置

充电电流设置范围因不同产品而不同，详细请参考《参数表》。



❺ 恢复出厂设置

如需清除所有记录，可全部还原

08 /技术参数表

MPPT型号		30A /40A	50A /60A	100A/120A
充电模式		MPPT自动最大功率跟踪		
充电方式		MPPT跟踪最大功率、快充、均衡充、浮充		
电池类型	铅酸电池	（12V/24V/36V/48V/96V自动识别 +可调12V/24V/36V/48V/60V/72V/84V/96V）		
	胶体电池	12V/24V/36V/48V/60V/72V/84V/96V		
	磷酸电池	单体电压3.2*串数（2串-45串可调）		
	三元电池	单体电压3.7*串数（2串-45串可调）		
	用户自定义	均充、浮充、直流放电限制电压可调：8V -170V		
带锂电激活功能		**有光伏输入，就有充电电压（激活锂电） 不用电池直流输出可以用**		
光伏最大开路输入电压		0--230V		
根据电池容量充电电流可调		0—30A 0—40A	0—50A 0—60A	0—100A 0—120A
启动充电		光伏电压大于电池电压+3V （阴雨天也能小电流充电）		
直充电流输出功能		**直流持续输出25A**	**直流持续输出50A**	**直流持续输出100A**
温度补偿		根据电池温度自动补偿充电电压及电流了，延长电池寿命		

MPPT型号	30A /40A	50A /60A	100A/120A
显示 通讯	采用触摸按键　LCD显示：(发电量/光伏电压/电池电压/充电电流/功率/运行状态)　　中英文显示 设置：(电池类型、充电电流、恢复出厂)		
	8针RS485通讯接口(可以查询运行状态和设置)		
工作环境温度	–20°C ~ 40°C		
IP 防护等级	IP 21		
海拔高度	0 ~ 3000m		
产品尺寸	202x215x100mm	218x265x100mm	
净重 / 毛重			

01 / Product overview

Thank you for choosing the new generation of MPPT controller produced by our company. It is a product developed according to the latest technology, representing the latest level of photovoltaic technology development, and has many excellent performances.

Basic function:

- Innovative maximum power point tracking technology can significantly improve the energy utilization rate of the solar system, with a conversion efficiency of up to 97%;
- Quickly scan the entire I-V curve, and efficiently track the maximum power point;
- Three types of lead-acid batteries, sealed, colloidal, and open type, and lithium battery series are optional;
- With automatic protection of overcharge, overdischarge, overload and short circuit;
- RS485 communication interface, multi-machine communication communication is possible, which is

convenient for viewing the operating parameters of the controller;

02 / Features of the MPPT controller

This controller is used in solar off-grid power generation systems to automatically adjust battery charging and discharging. It has an advanced tracking algorithm to obtain the maximum power of the solar cell components and charge the battery; at the same time, its low voltage disconnect (LVD) function can prevent the battery from over-discharging and causing damage.

The battery charging process of the MPPT controller is optimized to extend battery life and improve system performance. Its comprehensive self-test function and electronic protection function can avoid damage caused by installation errors and system failures. Although the controller is easy to operate and use, in order to enable you to better use all the functions of the controller and improve your photovoltaic system, please read the instructions and instructions in this manual carefully.

03 / Precautions

This manual introduces the related operations of the MPPT solar charge controller.

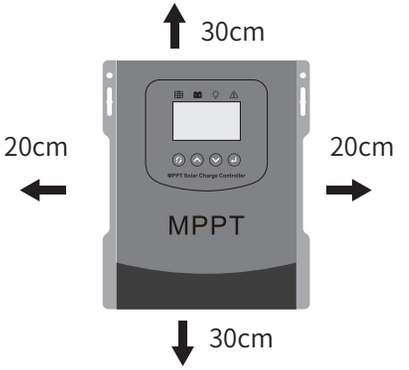
Validity: This manual is applicable to all models of our MPPT solar charge controller.
Target group: This manual is suitable for installers and operators.
Before installing and operating the controller, please read it first and keep it in a safe place for easy reference.

04 / Installation and connection method

1. Installation safety distance:

Observe the following safety clearances and ensure that other equipment or objects are not within this range to ensure that there is enough space for heat dissipation.

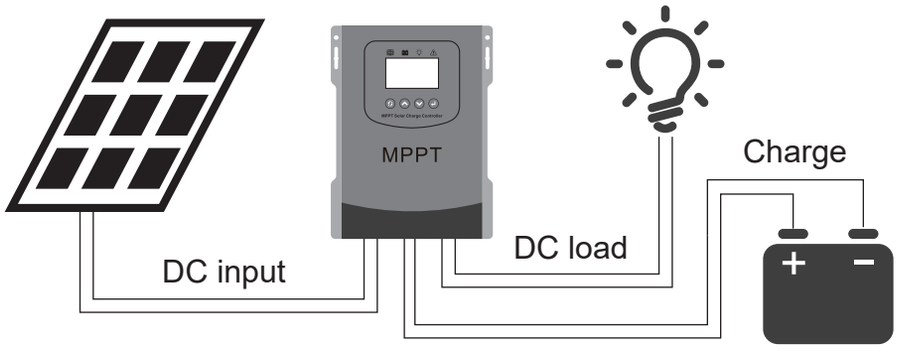
direction	safe distance
left and right	20cm
up	30cm
down	30cm

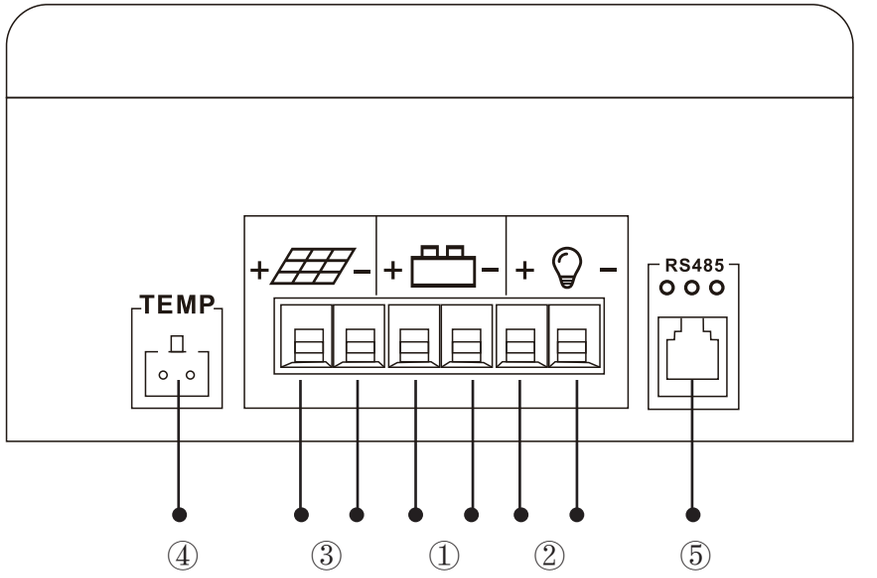


2. Line connection method:

The correct wiring sequence of the solar controller is as follows:

1. First connect the positive and negative poles of the battery;
2. Connect the positive and negative poles of the DC load;
3. Finally, connect the positive and negative poles of the solar panel.

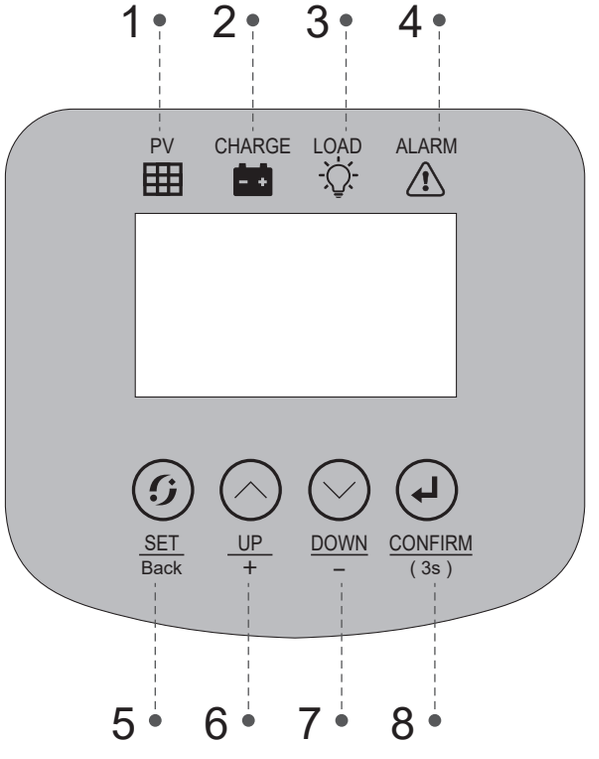




(wiring diagram)

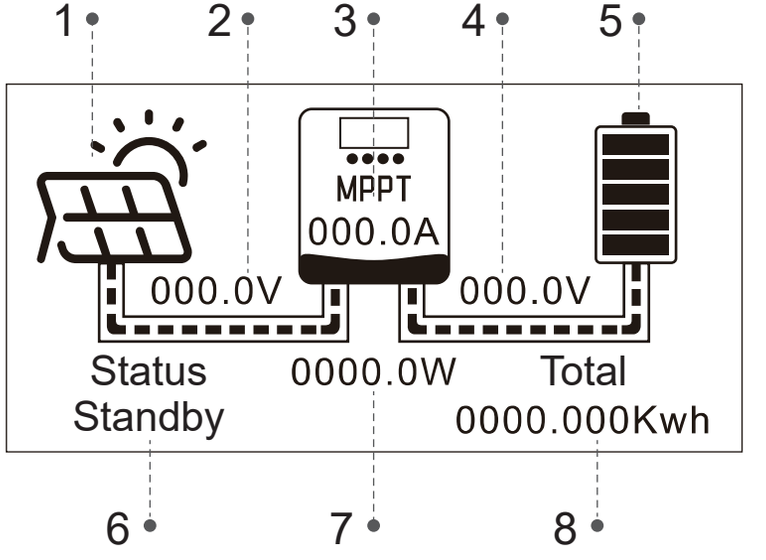
① Connect the positive and negative poles of the battery
② Connect the positive and negative poles of the DC load
③ Connect the positive and negative poles of the solar panel
④ Connect Rs485 communication line
⑤ Connect temperature sensor

05/ Key operation instructions



NO.	Name	NO.	Name
1	Solar panel indicator	5	Set / return
2	charging indicator	6	Up button
3	DC load indicator	7	Scroll down button
4	Warning indicator	8	Enter (Press for 3 seconds)

06 / LCD Main interface description



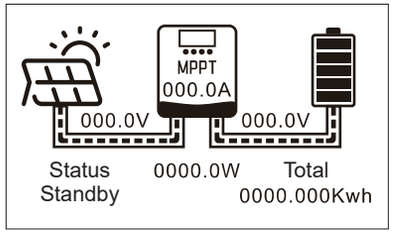
NO.	Name (System default main interface)
1	Solar panels
2	Solar input voltage
3	Controller charging current
4	Controller charging voltage
5	Battery
6	System status indication

7	Controller power generation wattage
8	Controller total power generation

07 /Parameter setting steps

In the default main interface, press SET to enter the main menu, press DOWN or UP to view the submenu

Press the ⓢ key to enter the main menu



→ Language
DC Output
Battery Type
Charging Current
Reset

Select the corresponding content, press ↵ key to enter the setting

❶ Language setting

Available in 中文 and English

Language Setting
→ 中文
English

DC Output Setting
→ ON
OFF

❷ DC output setting

Click to select to turn on or off the DC load

❸ Battery type setting

There are 4 built-in batteries to choose from, and users can add battery types.

Battery Type Setting
→ 1 . Lead Acid
2 . Gel
3 . LifePo 4
4 . Li-ion
5 . USER

System Info
BatteryType : Lead Acid
Rated Volt : Auto
Charg Volt : 055 .2V
Charg Curr : 060 .0A
LVD . : 042 .4V

After selecting the battery type, click Enter to set the required voltage.

❹ Charging current setting

The charging current setting range varies with different products, please refer to "Parameter Table" for details.

Charging Current Setting
▲ 050.0A ▼

Reset
→ Restore all Setting
Reset total

❺ Restore factory settings

If you need to clear all records, you can restore them all.

08 / Technical Data Sheet

Model		30A /40A	50A /60A	100A/120A
Charging Mode		MPPT automatic maximum power tracking		
Charging Method		MPPT tracks maximum power, fast charge, balanced charge, and float charge.		
Battery Type	Lead Acid	（12V/24V/36V/48V/96V Auto +Adjustable 12V/24V/36V/48V/60V/72V/84V/96V）		
	Gel	12V/24V/36V/48V/60V/72V/84V/96V		
	LifePo 4	Single voltage 3.2 * number of strings (2 strings -45 strings adjustable)		
	Li-ion	Single voltage 3.7 * number of strings (2 strings -45 strings adjustable)		
	USER	Adjustable limit voltage for equal charge, float charge and DC discharge: 8V -170V		
With lithium battery activation function		With photovoltaic input, there is charging voltage (activate lithium battery), can be used without battery DC output		
PV maximum open circuit input voltage		0--230V		
The charging current is adjustable		0—30A 0—40A	0—50A 0—60A	0—100A 0—120A

Model	30A /40A	50A /60A	100A/120A
Start charging	PV voltage is greater than + 3V of battery voltage (low current charging on rainy days)		
Direct charging current output function	DC continuous output 25A	DC continuous output 60A	DC continuous output 100A
Temperature compensation	According to the temperature of the battery, the charging voltage and current are automatically compensated to prolong the battery life		
Display communi-cation	LCD display with touch button: (generating capacity / photovoltaic voltage / battery voltage / charging current / power / operation status) Chinese and English display Settings: (battery type, charging current, return to factory)		
	8-pin RS485 communication interface (operation status and setting can be queried)		
Working environment temperature	– 20°C ~ 40°C		
Protection level	IP 21		
Altitude	0 ~ 3000m		
Product size	202x215x100mm	218x265x100mm	
N.W. / G.W.			