MPPT-30 Solar Charge Controller

30 AMP 12V/24V/48V

PHOTOVOLTAIC CHARGE CONTROLLER

INSTALLATION AND OPERATION

MANUAL

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1. Introduction

MPPT30 controller is a kind of intelligent, multi-purpose solar charge controller. It uses the fixed LCD display, with a very friendly interface; various control parameters can be flexibly set, fully meet your various application requirements. MPPT30 controller has following features:

① MPPT function: The most important feature of this controller is intelligently tracking input voltage from solar panels, and this can let solar panels always work at Maximum Power Point of V-A curve. Compared with normal solar charge controller, this MPPT controller can increase the generating efficiency of solar panels by 10% to 50%.

② Vivid LCD screen signal and precise operation

③ Intelligent PWM charging mode with auto temperature compensation

④ Adjustable charging and discharging parameters, and settable load working state

⑤ Different protection function for battery, including protection against reverse charging for battery, battery low voltage protection and protection against battery reverse connection

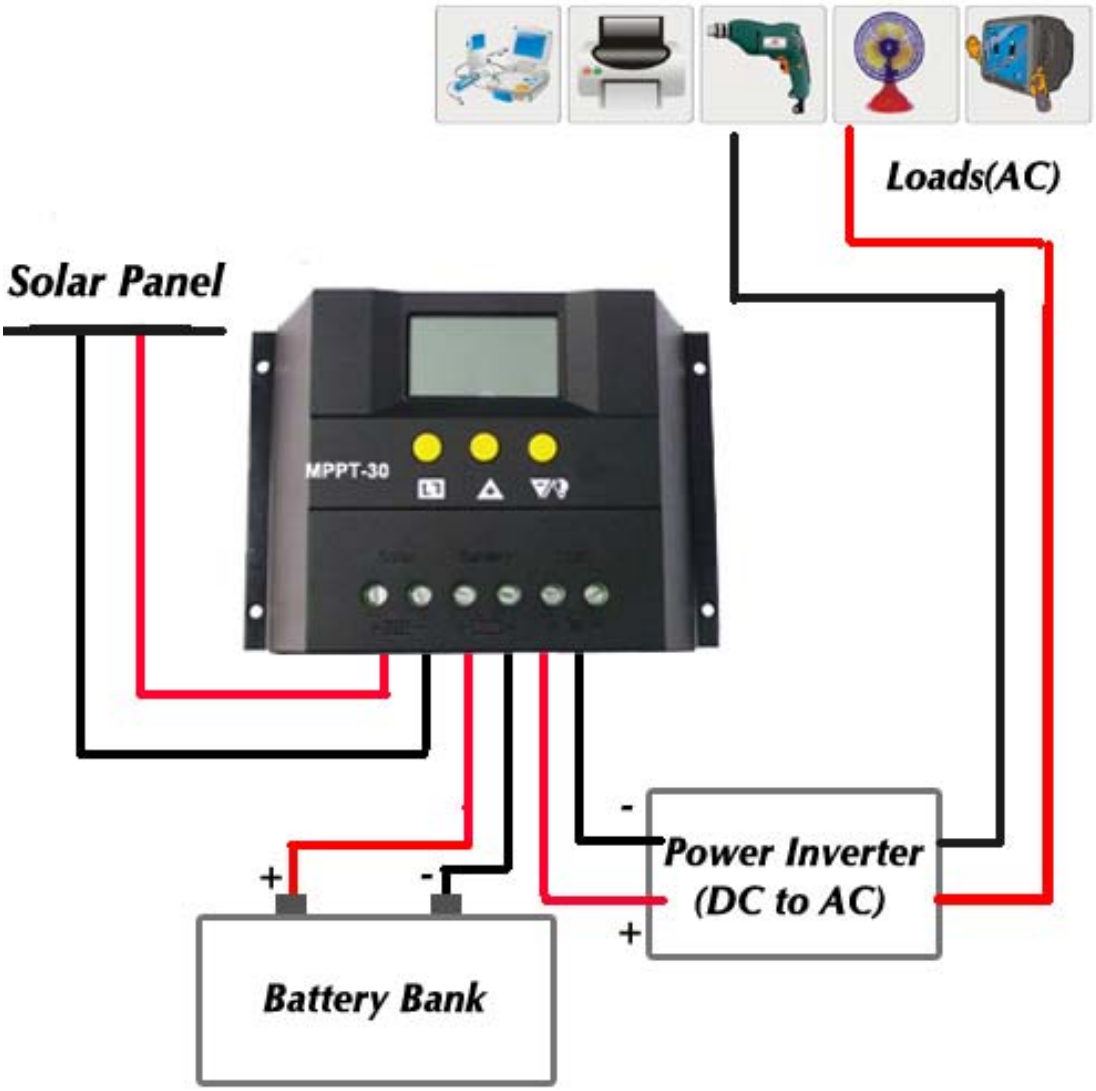
2. Installation

① **Install：**

Get ready for tools and cables. Advise you to match the right cables. Ensure that the current density ＜2A/mm² , and that is conductive to reducing the line voltage drop. Recommendation: 30A with 25mm² cables. Install the controller into a fixed vertical plane, and the installing pole diameter is 5, and the pole distance is 178*106(mm). To ensure the good ventilation of the controller, please save 10cm at each side of the controller.

② Connection:

As shown as the right chart, please connect according to the following order (Connecting the solar panels before connecting the battery is not allowed.)



Firstly: Connect the “+” “-” on the battery to the corresponding ports on the controller.

Secondly: Connect the “+” “-” on the solar panels to the corresponding ports on the controller.

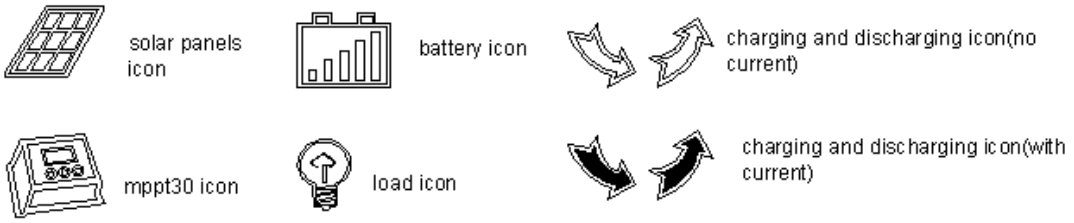
Thirdly: Connect the “+” “-” on the load to the corresponding ports on the

controller.
Fourthly: Put the external temperature sensor into the left of the controller (probe port). The temperature sensor should be placed at the similar space of the battery. (Otherwise, the controller will control the parameters of all wrong temperature compensation.)

③ Dismantle
To avoid accident, please dismantle the solar panels first and then dismantle battery.

3. Operation

①Description of LCD graphic symbol



②Description of Button Function

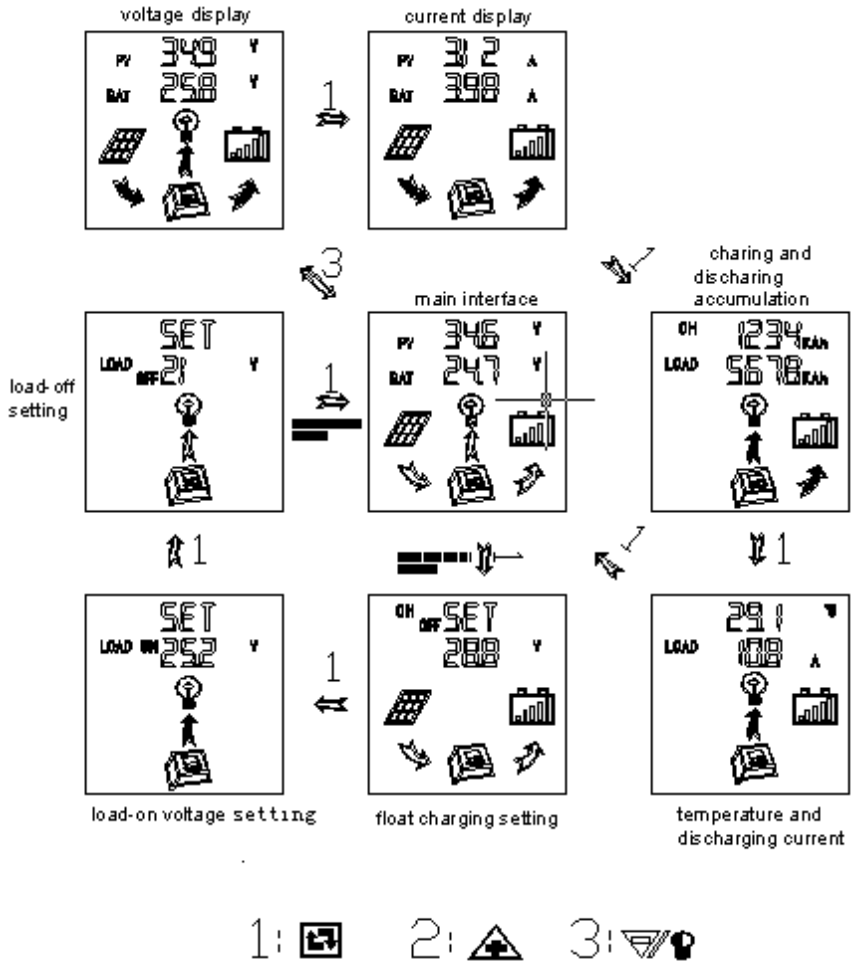
: Interface loop switch button, use the button to cycle between pages in each switch cycle sequence shown in (figure 1)

: Adjustment of parameters plus buttons. In addition, at the state in the parameter view, long press the button more than 5 seconds, all parameter to restore factory setting.

: Adjustment of parameters minus button. In addition, in the main interface, click this button to switch the load.

③ View and set the parameters:

The controller will default entry “battery voltage” interface after correct power-on. This is the ma interface. Use the button could in turn visit the following parameters interface. If t t interface could be set, long press the button （＞5seconds，numbers start flashing）To enter the parameter setting interface; set out the parameter interface after long press the button again. (The numbers stops flashing)



1: 2: 3:

3.1 Voltage display

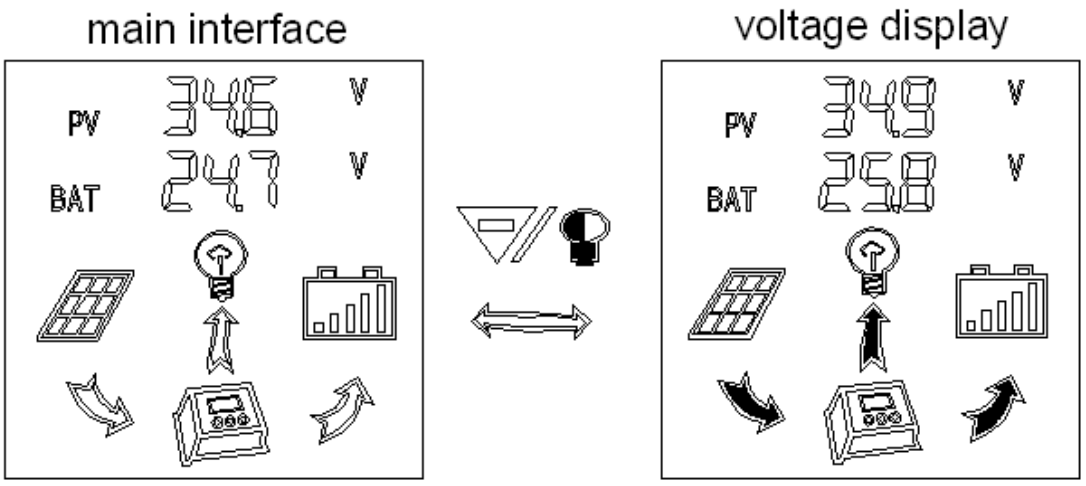
This is the main interface (see as the right chart), and it shows the charging and discharging state, battery voltage and capacity. And the parameters of the solar panels are the current MPPT voltage and battery voltage. MPPT30 will track the maximum power point automatically within 15 minutes after the system is connected well.

For the 24V system, the maximum voltage of solar panels will be higher than battery voltage by 5-20V.

For the 48V system, the maximum voltage of solar panels will be higher than battery voltage by 5-40V.

3.2 Load opening and closing controlling

At the main interface, you can use to open or close the load, and at other interfaces, this button does not have this function.



3.3 Current display:

This interface (as shown as the right chart—current display) shows the output current of the solar panels and also the charging current for the battery. The bigger difference the two currents are, the more obvious it reveals that the MPPT30 has to enlarge the current.

The test to check the MPPT tracking effect can be analyzed through this interface:

Make the controller short-circuit, and compare current at the “solar+” as well as “battery+” with those two current when it is not short-circuit, and it can reflect the maximum tracking effect.

3.4 Accumulative charging and discharging AH display

This interface(as shown as the right chart—accumulative charging and discharging AH) shows the accumulative charging and discharging AH of the battery.

3.5 Temperature and discharging current display

This interface (as shown as the right chart) shows the temperature and battery discharging current.

current display

charing and discharing accumulation

temperature and discharging current

3.6 Float charging setting

Press for 5 seconds to enter into the setting interface. This interface can set the battery float charging voltage, and press or to increase or decrease this parameter.

3.7 Load-on voltage setting

Press at the float charging setting interface to enter this interface to set the voltage that turns on the load

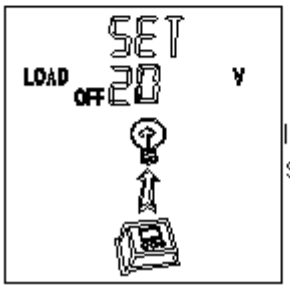
3.8 Load-off voltage setting

Press at the load-on voltage setting interface to enter this interface to set the voltage that shut up the load.

After all the above parameters are set well, press for 5 seconds to save the current setting parameter and exit the main interface.

float charging setting

load-on voltage setting



load-off setting

4.DATA SHEET

Model	MPPT30-24	MPPT30-48
Battery rated voltage	24V	48V
Battery rated charging current	30A	30A
Voltage tracking scope for solar panels	28-40V	56-80 V
Open circuit voltage for solar panels	＜50V	＜100V
Solar panel generating efficiency improvement	10-50%	10-50%
Controller efficiency	93-99%	93-99%
No load loss	＜70mA	＜35mA
Float charging voltage	28V	56V
Low voltage disconnect	21V	42V
Low voltage reconnect	25V	50V
Temperature compensation	-4mV/cell/℃	-4mV/cell/℃
Working temperature	-10℃～60℃	-10℃～60℃
Storage temperature	-30℃～70℃	-30℃～70℃
Dimension	188*192*90mm	188*192*90mm
Weight	1.435KG	1.435KG