

# 千秋太阳能

<http://315ccc.taobao.com>

**CMP45 (30A—45A)**

**SOLAR CHARGE CONTROLLER**

**USER'S MANUAL**

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## 1. SAFETY

The factors referring to users and property safety have been considered when designing the products. However the incorrect connection may cause the breakdown of system and even safety accident. For your safety and interests, the following rules must be observed during the operation.

- Installation of this product shall be carried out by professional staffs. If user is not sure with the installation procedure, please contact the local agent of our company.
- Prevent any liquid from spattering on controller. Do not clean the controller with wet cloth.
- Keep children and incapacity persons away from controller.
- Keep controller away from electrical heater, warmer and other source of heat; avoid controller from sun beat.
- Please check the rated voltage of solar panel, battery, and loads before connection. Their rated voltages all should be 12V (or 24V, 48V).
- Make sure to connect the positive and negative poles among Solar panels, Battery and Loads correctly.
- The diameter of connecting cable must be sufficient for the loads.
- The total rated current of solar panel and loads must be less than controller's rated current.
- Components of system must be correctly and firmly connected.
- Connecting wired battery positive and negative poles directly is prohibited.

## 2. FEATURES

**CPU controlled CMP45 (30A-45A) solar charge controller is able to adjust the charge current and decide if to supply the loads electricity according to the voltage of battery. The product also has following features:**

- Generally keep the battery on full voltage condition.
- Prevent the battery from over-charging.
- Prevent the battery from over-discharging.
- Prevent supplying electricity from the battery to solar panels during nights.
- Reverse Polarity Protection for Battery
- Reverse Polarity Protection for Solar panels
- When the current of load exceeds the rated one of controller, the controller will activate the protection mode and lock up, the screen shows "Overload".
- When short circuit happens, the Controller will activate the protection mode and lock up, the screen show "Short circuit".
- When the battery's voltage is low, the controller will automatically cut off loads from system and resume its working once the voltage of battery is back to normal.
- Protection from the lightning strike
- When Controller is normally working, the LCD Screen will show the voltage of battery, charging current and current of loads in turn in every 5 seconds.
- Controller is always counting and saving the Charging Current Hours and Discharging Current Hours of the Battery.
- When controller starts up, controller will self-setup the Charging-off voltage, the Load-off voltage and the Load-on voltage according to the voltage of battery. These default parameters are setup as the standard environment temperature is 25°C.
- According to varies system temperature, the controller will automatically compensate the temperature of the charging voltage.
- Users could setup the Charge-on or off voltage, the load-off voltage, the Load-on voltage, etc, according to their requirements.
- To prevent battery from over discharging, Controller will automatically control the lowest Load-off voltage of the load, which is no less than 10V (as per 12V battery) or 20V (as per 24V battery), or 42V (as per 48V battery). If voltage of the battery is less than 10V (or 20V,42V), the button "-" will stop working.
- To recover the default parameters, please keep pressing the button "Menu" for over 5 seconds.

### 3. CONNECTION

As indicated in diagram:

Connect “+” and “-” poles of solar panel with the correct ports on the controller (the first and second ports from the left).

Connect “+” and “-” poles of battery with the correct ports on the controller (the third and fourth ports from the left).

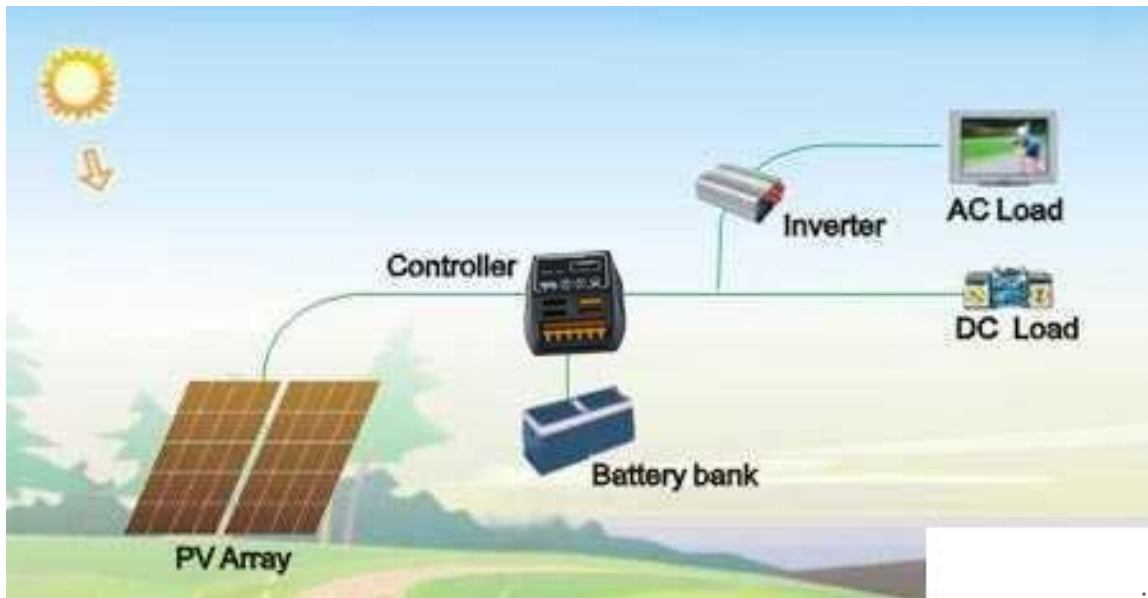
Connect “+” and “-” poles of load with the correct ports on the controller (the fifth and sixth ports from the left).

#### Attention!

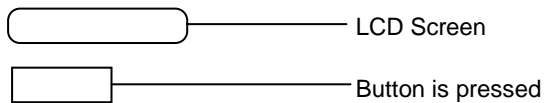
Correctly connect the electrodes of solar panels, battery and loads!

Choose the proper wire according to the current of the loads; the diameter could not be too small. Bigger than 4 mm<sup>2</sup> wire is suggested!

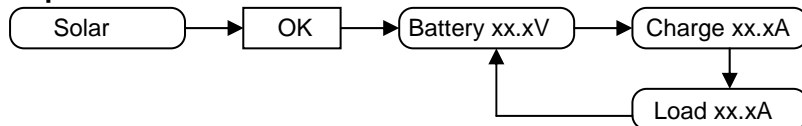
Diagram of Connection



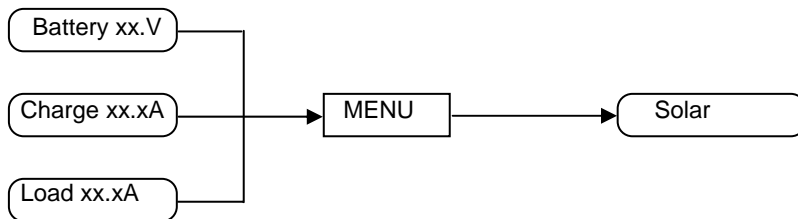
## 4. OPERATION



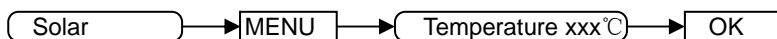
### -Startup



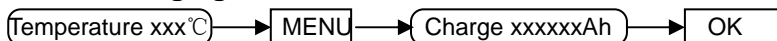
### -Menu



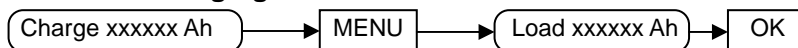
### -Check the system temperature



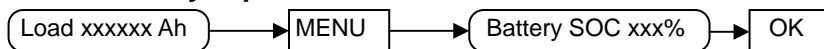
### -Check the charging current



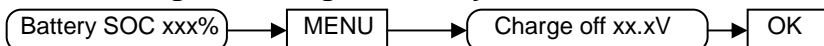
### -Check the discharging current



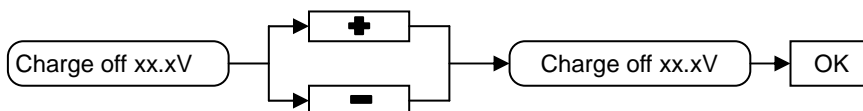
### -Check the battery capacitance



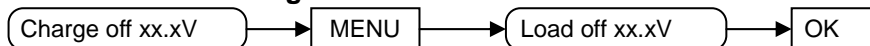
### -Check the charge-off voltage of battery



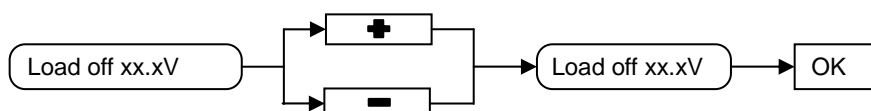
### -Setup the Charge off voltage of battery



### -Check the load-off voltage of loads



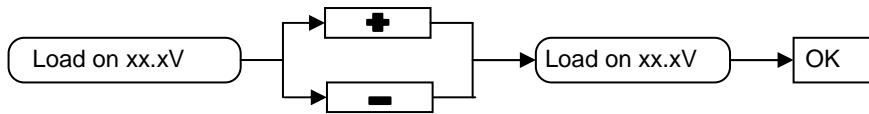
### -Setup the Load-off Voltage of loads



## -Check the load-on voltage of loads



## -Setup the load-on voltage of loads



## -Resume the default parameters of Charge-off voltage of Battery, Load- on & off Voltage of loads:

Press MENU for more than 5 seconds

## -Startup after over-loads



## -Startup after short circuit



## 5. TROUBLE SHOOTING

**Trouble:** Green light goes out, the loads stop working, and LCD Screen shows Battery low

**Reason:** Low voltage of battery

**Solution:** Charge the battery or change the battery

**Trouble:** Green light goes out, the loads stops working, and LCD shows Over load

**Reason:** Overload

**Solution:** Reduce the quantity of loads and then press Button Reset

**Trouble:** Green light goes out, the loads stop working, and LCD Screen shows Short circuit

**Reason:** Short circuit is happening in system.

**Solution:** Disconnecting the malfunction and then press the button Reset

**Phenomenon:** Green LED is on  
Loads are normally working

**Phenomenon:** Red LED is on  
Battery is charged up strongly

**Phenomenon:** Red LED is flickering  
Battery is charged up in constant voltage (or floating )

**Trouble:** Red LED goes out

**Reason:** Charge-off of battery

**Solution:** This is the common phenomenon during nights. If it is so during days, please carefully check the connection among Solar panels, Controller and Battery.



## 6. ACCESSORY INSTALLATION

**-Standard Accessory:** Near-distance thermoscope

**Installation:** Plug the thermoscope into the socket (top) of controller before running of controller, and then connect battery with the controller. The thermoscope will normally work after one minute. (Operate as indicated in the fourth Chapter, the environmental temperature of controller will be available on LCD).

**-Optional Accessory:** Long-distance thermoscope

Such thermoscope is suitable to the following condition—the location of battery is far away from the Controller (Please give the length of wire between battery and controller for ordering the proper thermoscope)

**Installation:** Plug the thermoscope into the socket (top) of controller before running of controller, and then connect battery with the controller. The thermoscope will normally work after one minute. (Operate as indicated in the fourth Chapter, the environmental temperature of controller will be available on LCD).

## 7. SPECIFICATIONS

Mode	Voltage (DC)	Max Load Current	Full Charge Cut	Resume Voltage	Low Voltage Cut	Temp Compensation	Zero Load Loses	Min Wire Size	Voltage Drop
CMP45-30A	12V、24V Automatically distinguish /48V	≤30A	13.7V/12V; ×2/24V; ×4/48V	12.6V/12V; ×2/24V; ×4/48V	10.5V/12V; ×2/24V; ×4/48V	-3mv/°C/cell Default, or user set	≤ 45mA	6 mm <sup>2</sup>	<520mv
CMP45-40A		≤40A							<550mv
CMP45-45A		≤45A							<600mv
CMP45-80A	48V	≤80A	54.8V	50.4V	42V			25 mm <sup>2</sup>	<600mv
CMP45-110A	48V	≤110A						<600mv	

Notice: The figures of Full Charge Cut, Resume Voltage and Low Voltage Cut are either default set by this manufacturer or adjusted by well trained user.

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