Remote Power

SDPC Series

SDPC3024 SDPC4024 SDPC5024 SDPC6024

SDPC3048 SDPC4048 SDPC5048 SDPC6048

Solar Charge Controller

USER MANUAL

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Contents

1.0 Features

Control: Intelligent control with MCU and particular software

High accuracy discharging control: Over-discharging control voltage modified by the battery discharging rate curve.

Circuit Protection: Automatic protections of over-charge, deep-discharge, short-circuit, over-load and anti-reverse polarity connections. Won't damage any of the components and the fuse.

LED indication on system condition: Indicating LED's, monitor battery charging levels as well as battery state. LED monitoring of load conditions such as over load and short circuit as well as load on/off, are also provided.

Design standard: Operating temperature range from -35 to +50 deg C.

No adjustable hardware part: Controller accuracy, stability and reliability is assured by the use of flash memory for all control parameters and set-points.

Temperature: Operating range from -35 to +50 deg C. Also compensation -5mv/ °C/cell to guarantee the battery performance

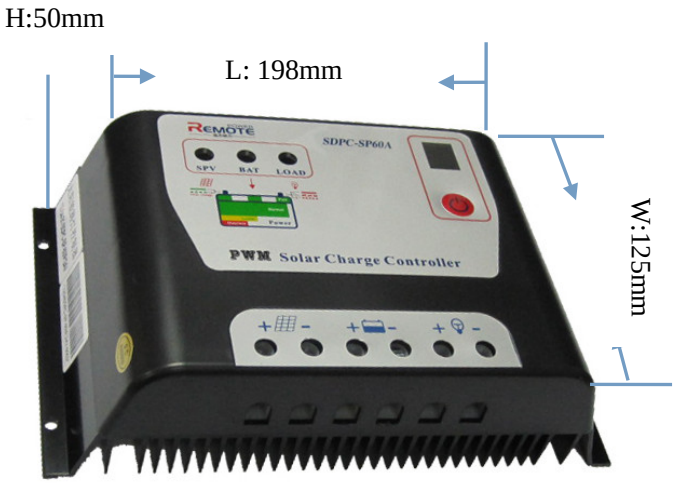
High Standard: Industrial-stage microchip to ensure proper work conditions under cold, hot and humid conditions. Timer control ensures the accurate timing.

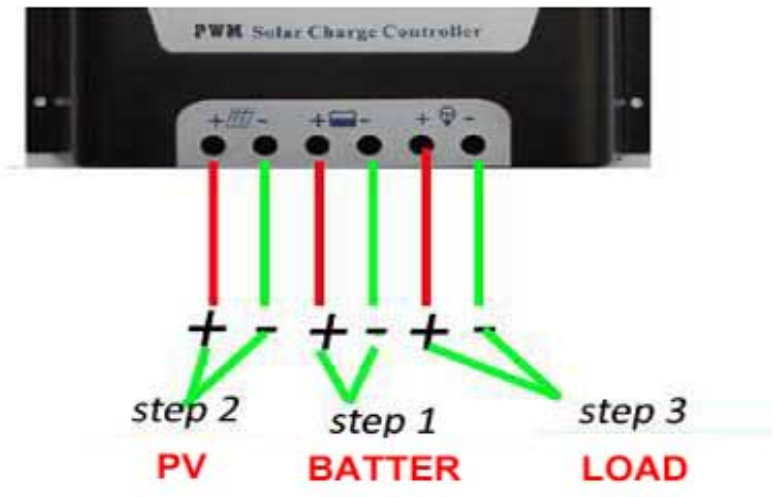
2.0 Installation & Operation

Attention: Connect battery first,be care of Positive(+) and Negative(-)

2.1 Controller Size

Mount the controller in a suitable place.





2.2 Cable Information

Choose the plastic Copper wire. Current density no more than 4A/mm^2. Cut the suitable length of wire and make it as shout as possible. Peel off 5mm the plastic at the end of wire.

2.3 Battery Connection

Connect battery Positive and Negative to the controller first to power on the controller. Make sure correct polarity of terminals.

The controller has protection of reverse polarity, so even not connect correctly for positive and negative, the controller will not be burned.

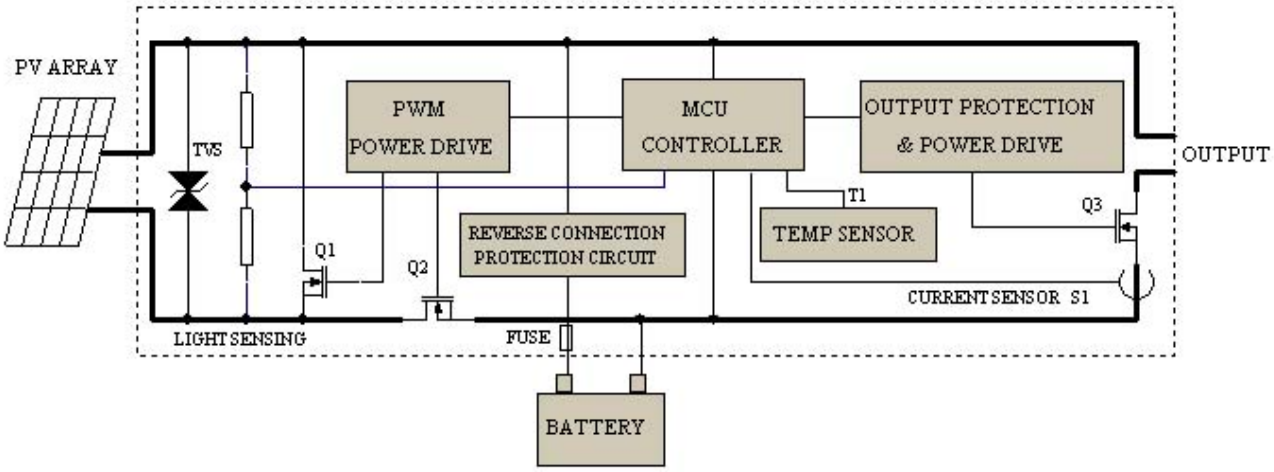
2.4 PV Connection

Connect the solar panel to the controller terminals, be careful of Positive and Negative. When the sun is available in the daytime, the PV indicator will be green color, otherwise NOT, then you need to check the connection whether is correct or NOT.

2.5 Load Connection

After connected with battery and PV, then connect the Load, also be careful of Positive and Negative, if not connect correctly, it is easy to burn down the electrical appliances.

2.6 System Main Circuit Diagram



3.0 Work Mode Setting

3.1 Mode Setup

First make sure this controller is powered on(battery is connected),then press and hold on the button continue for 5 seconds until the number on the LED screen begins to flash,at this time,press the button step one by one,you will see the number on the LED screen changes,and the number is from 0 to 9，then into 0.to 7.,adjust the number to the one that you want(refer to the Time Setting Table in the following),then loose the button,and this mode will be saved automatically.After the flashing number stopped,you can press the button one time to recheck whether this number is the mode that you want.

3.2 Time Setting Table

LED Display	Working Mode
0	Sun set+10 minutes delay+working for the whole night
1	Sun set+10 minutes delay+working for 1 hour
2	Sun set+10 minutes delay+working for 2 hour
3	Sun set+10 minutes delay+working for 3 hour
4	Sun set+10 minutes delay+working for 4 hour
5	Sun set+10 minutes delay+working for 5 hour
6	Sun set+10 minutes delay+working for 6 hour
7	Sun set+10 minutes delay+working for 7 hour
8	Sun set+10 minutes delay+working for 8 hour
9	Sun set+10 minutes delay+working for 9 hour
0.	Sun set+10 minutes delay+working for 10 hour
1.	Sun set+10 minutes delay+working for 11 hour
2.	Sun set+10 minutes delay+working for 12 hour
3.	Sun set+10 minutes delay+working for 13 hour
4.	Sun set+10 minutes delay+working for 14 hour
5.	Sun set+10 minutes delay+working for 15 hour
6.	Manual ON/OFF
7.	Sun set+working for testing for the whole night

4.0 LED Indicator

4.1 PV Indicator

Color	Indication	Working State
Green	On Solid	PV is charging Battery
Green	Flash Fast	Battery Over Voltage,refer to Trouble shooting.

4.2 Battery Indicator

Color	Indication	Working State
Green	On Solid	Battery is Normal
Green	Flash	Battery is full
Yellow	On Solid	Battery is under voltage
Red	On Solid	Battery is over discharge and turn off Load

4.3 Load Indicator

Color	Indication	Working State
Yellow	On Solid	Load is ON
Red	Flash slow	Over Load

Notice:If the load current exceeds 1.25 times the controller rated current continue for 60 seconds,or 1.5 times the controller rated current continue for 5s,over load protection will work,and controller will turn off the load automatically.User need to recheck the connection of the load,after the problem solved,press the button one time,and controller will be back to work normal.

5.0 Specification

Type	SDPC3024	SDPC4024	SDPC5024	SDPC6024
	SDPC3048	SDPC4048	SDPC5048	SDPC6048
Rated charge current	30A	40A	50A	60A
Rated load current	30A	40A	50A	60A
Work voltage	12/24V auto or 48v			
No load current	≤6mA			
Charging circuit voltage drop	≤0.26 V			
Load circuit voltage drop	≤0.15 V			
Over voltage protection	17V; ×2/24V；			
Work temperature	Industry stage：-35 ℃ to +55℃			
Boost charge voltage	14.6V;×2/24V;×4/48V (keep 10min)			
Direct charge voltage	14.4V; ×2/24V;×4/48V (keep 10min)			
Float charge voltage	13.6V; ×2/24V;×4/48V			
charge return voltage	13.2v;×2/24V;×4/48V			
Temperature compensation	-5mv/ ℃ charge return voltage);			
Lower voltage indicate	12.0V;×2/24V;×4/48V			
Over discharge voltage	11.1V（no load）- real-time modified voltage by the discharge rate； ×2/24V；			
Over discharge return voltage	12.6V; ×2/24V;×4/48V			
Dimension(mm)	185x125x30	198×125×55		
Weight	0.4kg	0.85kg		

6.0 Problem and Trouble Shooting

Problem	Trouble shooting
Sunlight on solar panel but PV charge Indicator is not on.	Check solar panel output and cable connections are correct and connected steady
The PV charge LED Indicator flashes fast.	System over voltage protection is working. Open circuit in the battery. Check battery cable connections. Charging circuit damaged.
Load LED indicator is on but no output.	Load open circuit. Check cables and connections and any other load switches.
Load state LED is on and flashing fast. No output.	Check output for short circuit or over-load. Remove the load and switch output ON, Controller will resume after 30 seconds.
Load state LED is on and flashing slowly. No output.	Overload has occurred. Remove sufficient load and switch output On. Controller will resume in 30 seconds.
System state LED flashing RED with No output.	Battery is over discharged and load disconnected. The load will be reconnected when battery charged again.

7.0 Warranty

Warranty Card

Product Name_____

Product Model_____

Serial number_____

Date of purchase：____Date_____Month_____Year

Company Name:_____

Contact:_____

Address: _____

Tel:_____

1. The product warranty period is two years since factory.
2. During the warranty period, any problem caused by normal use under the user manual (determined by the controller factory), reparation is free of charge.
3. During the warranty period, if one of the following terms occurs, repair will not be free:
   ①Not able to provide the PI,Receipt,or other valid proof of purchase.
   ② Users' own errors and improper installation ,operation caused the faults or damage.
   ③ Damage caused by the fall on delivery,drop,or other unavoidable external factors cause faults and damage.
   ④Improper use of the damage caused by the device water or other corrosive liquid .

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