5A10A Solar Controller

User instruction manual

Print version V3.1

Distinguished guests:

Thank you for selecting our product, please read the manual carefully before the usage.

Warnings for usage

1、The batteries has stored much energy,please keep the batteries from the short circuit under any circumstances,we strongly recommend connecting the batteries with the fuse.

2、Please avoid the short circuit wire and the terminal,for the wire and the terminal may generate voltage two times higher than the rated voltage of the controller.Please use the insulated tools while operating the controller.

3、Ensure the children keep away from the battery and the controller.

4、Please comply with the manufacturer`s safety advice.

5、Because of the equipment work may have a fever, please keep ventilation.

6、The device pay attention to water, moisture, in order to avoid damage to the equipment.

Suitable range

The controller is only applicable to solar power, rated voltage of3.7V, 7.4V, 11.1V ,14.8V or 22.2Vsystem for1, 2, 3 ,4or 6 sections lithium battery cells.

Note: specifically how much battery charge, see the product model, product can not be adapted to the various systems.

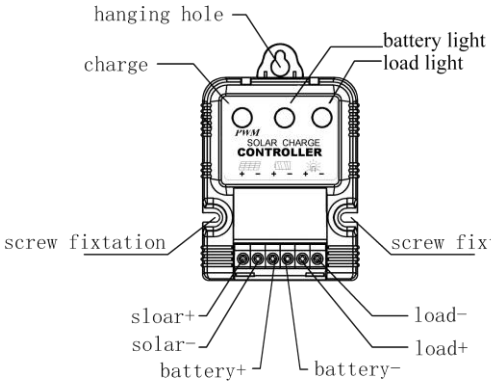
Application

Widely used in power generation unmanned, remote mountain villages, wild and domestic. For example, LED lighting, compact lighting systems, emergency lighting, garden lighting, stair lighting, camouflage lights, street lighting, wireless communication, security alarm, border police, traffic warning lights, traffic lights, traffic yellow flashing lights, obstruction lights and so on.

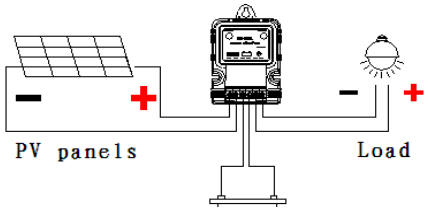
Characteritics

1. Equipped with the MCU, artificially controlled.
2. Equipped with device to avoid the overcharge, over release, electronic short circuit, over loading, battery inversely connecting, solar battery inversely connecting.
3. Use the battery discharge rate characteristics to correct discharge control。
4. The series connection PWM circuit is implemented to form the major charging circuit, make the voltage loss half of or lower than the diode charging circuit, and the charging efficiency 3%-6% higher than the non-PWM.
5. The LED shows the batteries current situation to make the customer get the information of the batteries.
6. Three operating modes can be selected: normally open mode, the pure light control mode and light control plus timing mode.

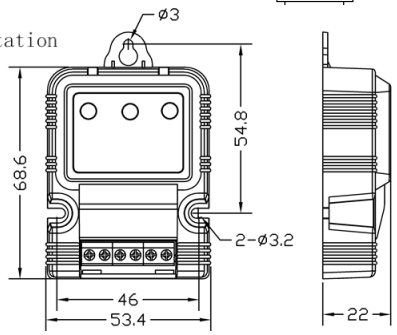
The drawings of the controlling panel



Cording diagram



Outline dimension and Installation dimension



Please keep instructions for reading.

Install and Method of using:

Firstly, determine the controller output mode , the device factory default setting is normally open mode .if you need to set for the pure light control mode or light control plus timing mode, you need to open the enclosure through set DIP switch, changing the discharge mode.

When the key set "ON" is 1, the key set "OFF" is 0, normally open, pure light control, light control timer mode corresponding key states plus the following table:

1234 Key	Mode	1234 Key	Mode	1234 Key	Mode	1234 Key	Mode
0000	On	0100	4H	1000	8H	1100	12H
0001	Light control 1H	0101	5H	1001	9H	1101	13H
0010	Light control 2H	0110	6H	1010	10H	1110	14H
0011	Light control 3H	0111	7H	1011	11H	1111	Purelightcontrol

1、Connecting the battery first. If correctly connected, battery indicator will light.
2、Connecting the wire of the solar panel second. If the connection is correct, the indicator light of "CHARGE" will be on or flash 10 seconds later after laying outside under the sun. Otherwise, please check the connection. Making sure the solar energy panel is laid outdoors under the sunshine.
3、Connecting the load at the end. If inversely connected, the led lamp may be damaged. Please pay attention to the anode and the cathode to avoid the inverse connection.

LED lights display instruction

LED	State	Function
CHARGE	Red light off	Night condition or the battery not connected
	Rde light on	State of charge
BATTERY	Rde light on	Low battery protection
	Red light blinking	Battery power remaining 25%
	Red and green flashing	Battery power remaining 50%
	Green light blinking	Battery power remaining 75%
	Green light always on	Battery power remaining 100%
	Red and green flashing at the same time	Battery over-power
LOAD	Green ligh off/ always on	output shutdown/ output normal

Technology index

Current system	5A/10A				
System voltage	3.7V	7.4V	11.1V	14.8V	22.2V
Overload, short circuit protection	1.25 times the rated current delay 5 minutes off, Automatic recovery after 5 minutes; ≥1.5 times the rated current of short-circuit protection action				
Withstand voltage input	≤30V				≤55V
No-load loss	≤5mA				
Charge loop drop voltage	≤0.2V				
Discharge loop drop voltage	≤0.1V				
High voltage protection	5.5V	9.5V	13.5V	17.7V	27.0V
High voltage resume	5.0V	9.0V	13.0V	17.2V	26.0V
Over-discharge protection voltage	3.0V	6.0V	9.0V	12.0V	18.0V
Over-discharge recovery voltage	3.7V	7.4V	11.1V	14.8V	22.2V
Charging cut-off voltage	4.2V	8.4V	12.6V	16.8V	25.2V
Daytime identifying voltage	3.0V	3.5V	7.0V	7.0V	14.0V
Night identifying voltage	1.0V	1.5V	3.0V	3.0V	6.0V
Working temperature	-20℃-+55℃				
Size	53.4mm*68.6mm*22.0mm				
Weigh	0.03kg				

Please keep instructions for reading.