

# Solar Charge Controller

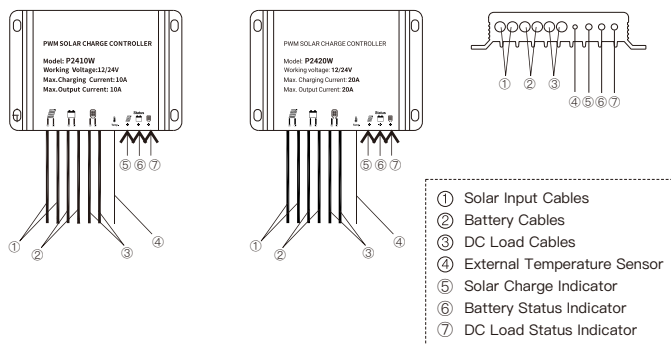
P2410W/P2420W

## 1. Controller Features

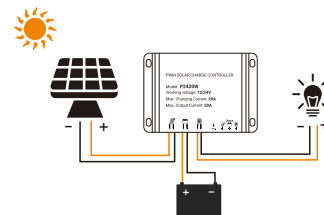
1. IP68 waterproof and aluminum shell design to prevent all kinds of corrosion effectively.
2. 12V/24V battery system.
3. LED indication for charge status and load status.
4. DC Load always on.
5. External temperature sensor with temperature compensation.
6. Full range of protection with over-charge, over-discharge, DC load over power, DC load short circuit and anti-reverse connection.
7. Multiple options available for customization before ex-factory. (Customized cables & connectors; Default battery type setting; Bluetooth function for PV and battery monitoring).
8. TVS lightning protection.

## 2. Device and Wiring Diagram

### 2.1 Wire and Indicator Description



### 2.2 Wiring Connection



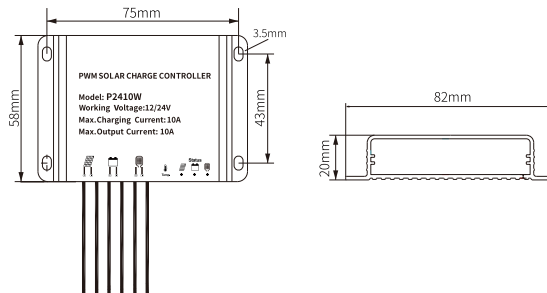
### 2.3 Wiring Precautions

P2410W/P2420W can be used in 12V/24V battery system. If there is a DC load, **please connect the DC load first, and then the battery.** The 3 LED indicators would be lighting in in turns for twice. The battery indicator and DC load indicator would be on, if the relevant wiring is good. If any or both indicators not on, then please check if there is any problem with the connection.

Next, we connect the PV panel wires. If there is sunlight, the PV indicator light will be always on. In 3-5 seconds, the controller would try to recognize the charging status. The PV indicator would flash slowly if the solar charge goes well. If not, then please check the solar panel wiring.

As the DC load is always on, **please make sure that the DC load does not exceed the rated current limited with the controller (10A/20A) before connecting it.**

## 3. Controller Dimensions



## 4. Use Suggestions

1.The controller automatically recognizes the system voltage 12V/24V when it is powered up. Please connect the DC load first and then the battery that ensure the reliability of the connection.

2.As this device might get heat while charging, so please try to install it in a ventilated and heat-dissipating environment.

3.Please keep the battery and the controller in the same environment as far as possible. Because the external temperature sensor will monitors the environment of the controller then compensates the temperature of the battery. It will also protects the controller from over-temperature.

4.Please choose the wire that is the same as or larger than the required size of the device. Also the length of the wires should not be too long to avoid misjudging the voltage of the device due to the wires' loss.

5.Please ground the positive terminal if grounding is required. This device is a common positive design.

6.It is unwise to leave any battery empty for long time and any battery should be charged at least once a month. If it is not charged for a long time, it is likely to cause permanent damage to the battery. So we have certain requirements for our users during use, please keep charge greater than discharge so that the battery can be fully charged.

## 5. Status LED Indications

LED Indications	Status	Functions
PV	Off	Solar input not charging / Unconnected / PV Reversed
	Steady On	PV voltage higher than the controller light control voltage
	Slow Flash	Charging Mode
	Quick Flash	Solar Over Voltage
Battery	Off	Battery Disconnected
	Steady On	Battery On
	Slow Flash	Battery Over Discharged
	Quick Flash	Battery Over Voltage
Load	Steady On	DC Load On
	Flashing	DC Load Overload

## 6. Controller Specifications

ITEMS	PARAMETERS	
Model NO.	P2410W	P2420W
Max Load Output Current	10A	
Battery System Voltage	12V/24V Auto(GEL/SEL/FLD) Default: GEL	
No-load Loss	5mA/12V	3mA/24V
Max Solar Input Voltage	12V System < 22V	24V System < 55V
Rated Solar Charge Current	10A	20A
Max Solar Input Power	170W/12V;340W/24V	340W/12V;680W/24V
Operating Temperature	-35°C~+45°C	
IP Protection	IP68	
Net Weight	0.16kg	
Light Control Voltage	5V*n	
Light Control Delay Time	10s	
Operating Altitude	≤3000m	
Controller Dimension	82*58*20mm	
Battery Voltage	Battery Parameters	
Battery Types	GEL	
Boost Charge Voltage	14.2V*n	
Float Charge Voltage	13.8V*n	
Load Mode	Always on (Load mode can be customized )	
Boost Charge Recovery Voltage	13.2V*n	
Over-discharge Recovery Voltage	12.6V*n	
Over-discharge Voltage	11.1V*n	
Auto Temperature Compensation	-3mV/2V/°C	
Package Instruction	Packaging Status	
Manual	YES	
Bluetooth	Optional	

Note: In the absence of special instructions, the parameters in the data sheet shall prevail. If you have the requirements for other battery type for setting or require Bluetooth function, please make a remark when ordering. And we also support the customization of special wires.