



Operation Instruction of Solar Panel

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Professional Solar Panel Service

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Content

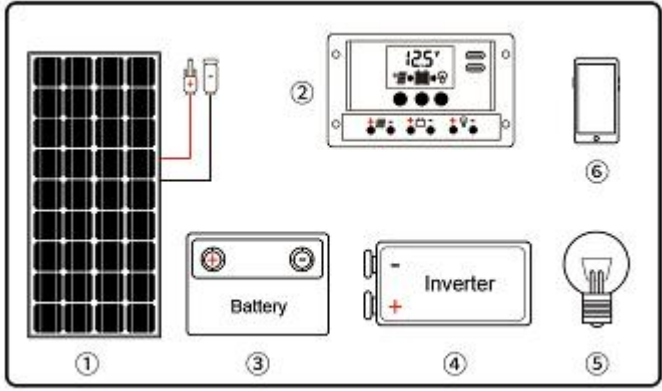
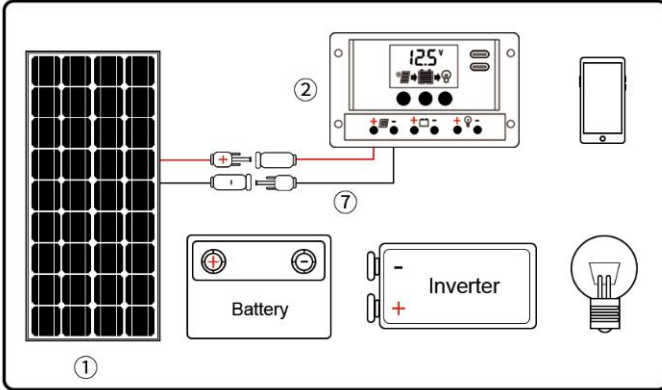
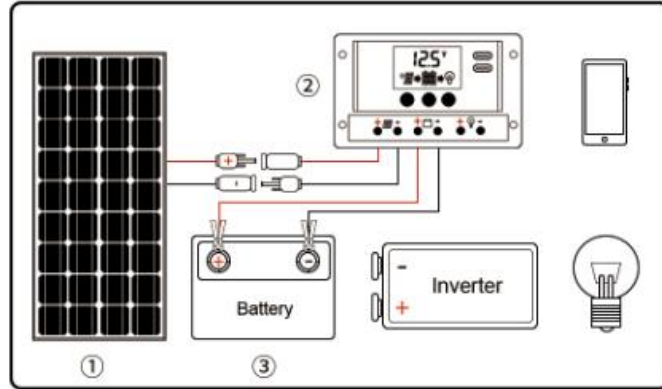
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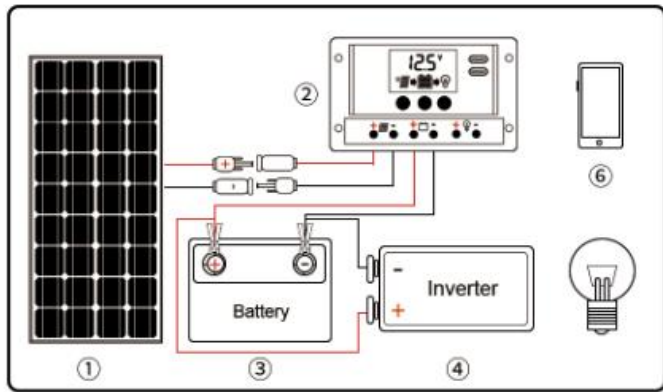
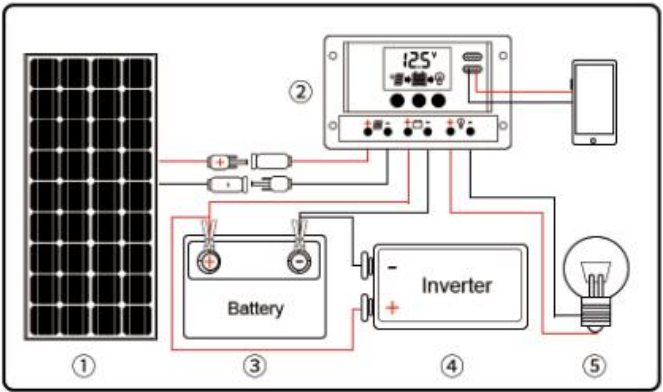
Brand Story

The company Jinhua Dongqiu Energy Technology Co., Ltd. is specialized in the production and processing of solar panels. Founded in January 2007, the company is a sino-foreign joint venture high-tech photovoltaic enterprise integrating R & D, production and sales. It is mainly engaged in the R & D, manufacturing, sales and after-sales service of crystalline silicon solar cell modules, photovoltaic system engineering and photovoltaic application industry. The project investment is 300 million yuan and the planned capacity is 1000MW. The company has collected a number of experts, engineers and senior management personnel of materials, polymers, semiconductors and electronic power technology. With scientific research as the core, talents as the support, market as the guidance and management as the driving force, the company will build into a comprehensive global high-tech enterprise with strong productivity. The company now has Chinese and English trademarks of DOKIO brand. Since its establishment in 2007, we have been taking foreign trade business as the main breakthrough point. Our distributors are all over the world in dozens of countries. At the same time, our products have won the unanimous praise of the vast number of users all over the world. Since 2016, in order to expand the enterprise scale and enhance the company's business ability, it began to contact cross-border e-commerce. By January 2020, DOKIO solar panels have reached the top 10 among the global online brands. Our product quality is guaranteed, through ISO9001 international certification, German Rhine certification, some products also have practical patents, with the world's unique characteristics. After more than three years of cross-border e-commerce development, the company now has dozens of overseas warehouses in the United States, Canada, Japan, Brazil, Italy, Spain, Germany, Britain, Russia, Poland, etc., for the global users to provide quality products, as well as satisfactory service.



①Glass Panel Connection Diagram (for flexible solar panel)

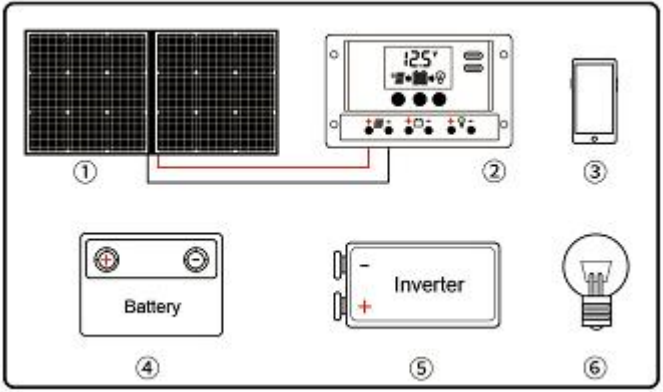
<p>Step 1: Equipment Preparation</p> 	<p>①Solar Panels ②Controller ③Battery ④Inverter ⑤Light Bulb ⑥Device (USB interface less than 5V)</p>
<p>Step 2: Connect the Solar Panel to the Controller</p> 	<p>⑦Two MC4 Cable (+ / -) (Self Prepare)</p>
<p>Step 3: Connect the Controller to the Battery</p> 	<p>③Connect a 12V Battery</p>
<p>Step 4: Connect the Battery to the Inverter and Connect the Charging Line of the Equipment</p>	<p>⑥When connecting the charging line of the equipment, the controller must be connected to the battery. ④The input voltage of the inverter needs to be equal to the battery voltage.</p>

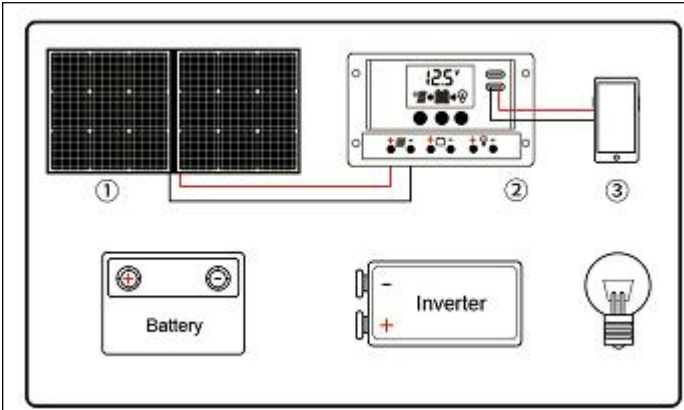
	
<p>Step 5: Connect the Controller to the Bulb</p> 	<p>⑤If you need to connect 12V electrical appliances to the controller (for example: 12V bulb, 12V mosquito killer lamp, 12V stable fan, etc.), please connect the power to the controller first (start the controller through the weak power on the battery).</p>

Glass plate is suitable for: household equipment, recreational vehicle, car battery, boat, etc.

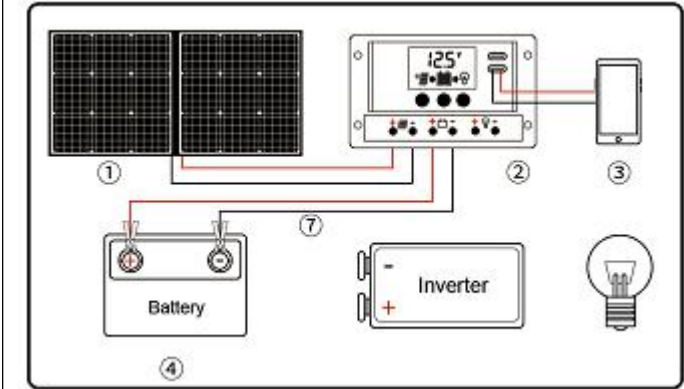
Note: Please connect in strict accordance with the above order, otherwise the controller may be damaged. The disassembly sequence is opposite to the wiring sequence.

②Connection Diagram of Flexible Foldable Solar Panel

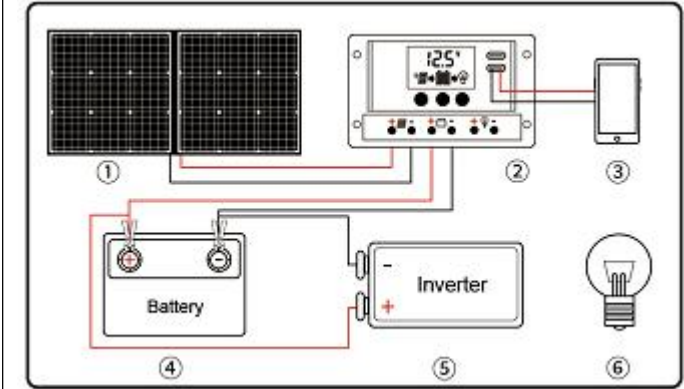
<p>Step 1: Connect the Solar Panel to the Controller</p> 	<p>①Solar Panels ②Controller ③Equipment ④Battery ⑤Inverter ⑥Light Bulb</p>
<p>Step 2: Connect the Controller to the Device</p>	<p>③Device (USB interface less than 5V)</p>



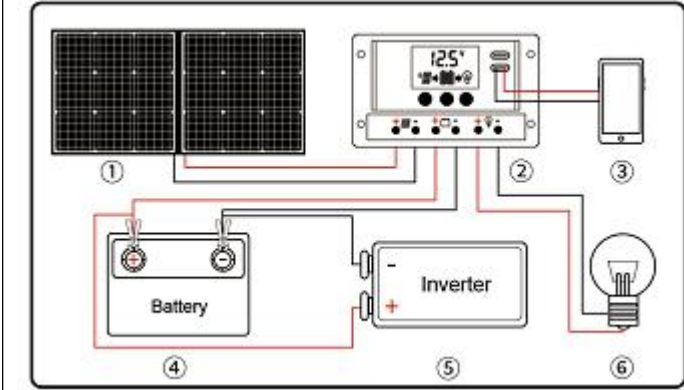
Step 3: Connect the Controller to the Battery



Step 4: Connect the Battery to the Inverter



Step 5: Connect the Controller to the Bulb



⑦SAE cable, controller, alligator clip (free)
④The voltage connected to the battery is 12V.

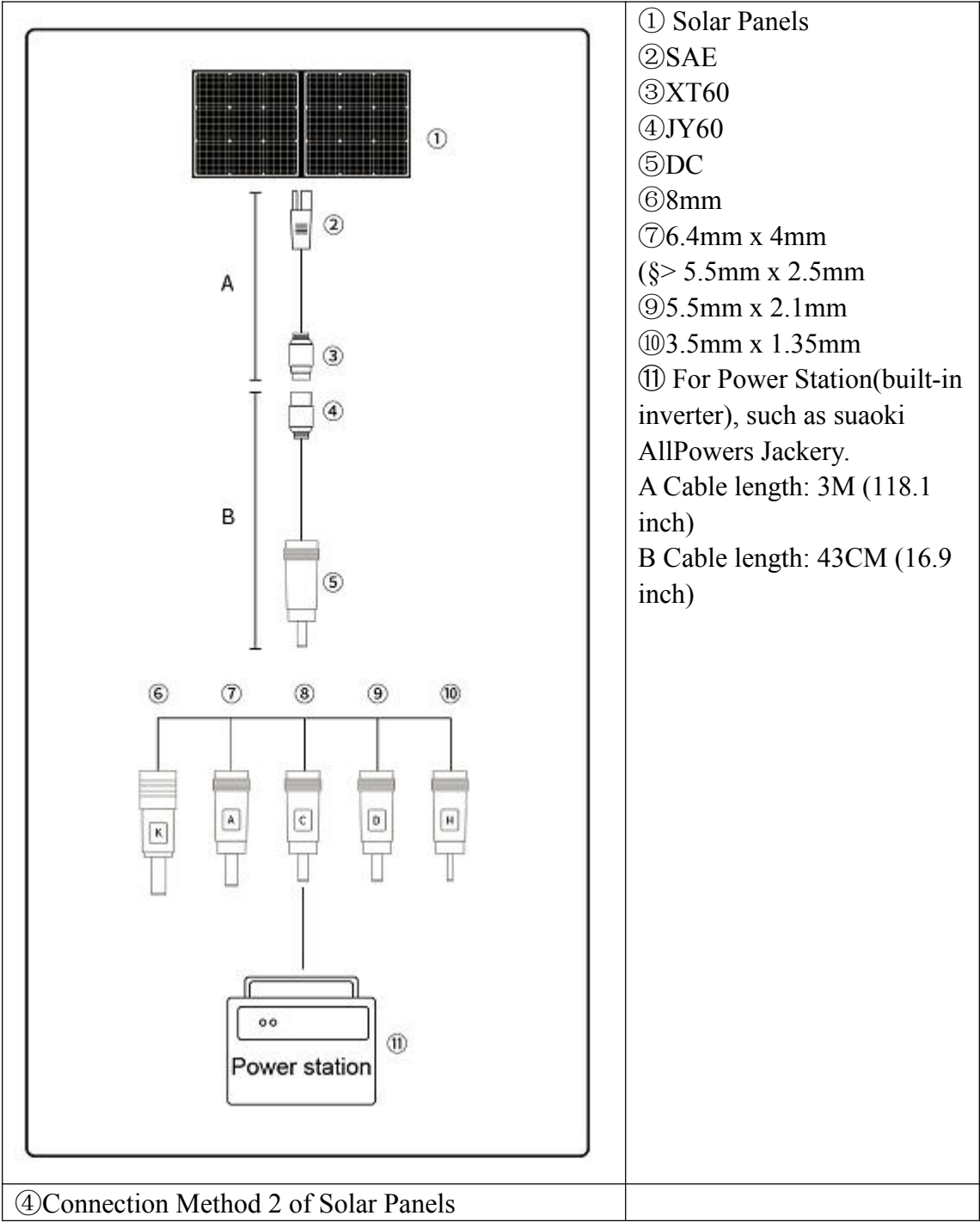
⑤The input voltage of the inverter needs to be equal to the battery voltage.

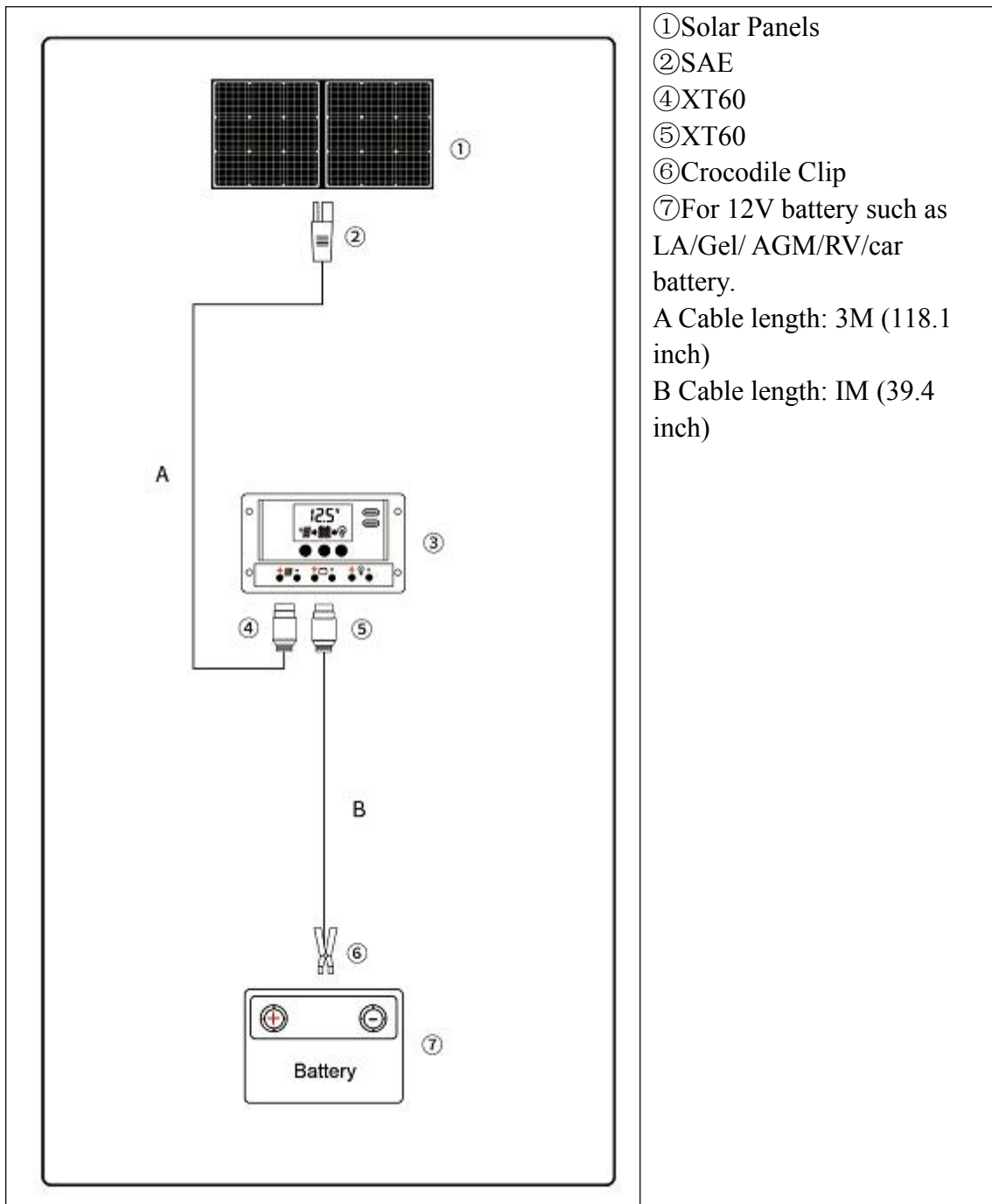
⑥Only for 12V light connection.

Flexible foldable board is suitable for mobile phone, iPad, automobile battery, portable power supply, etc.

Note: Please connect in strict accordance with the above order, otherwise the controller may be damaged. The disassembly sequence is opposite to the wiring sequence.

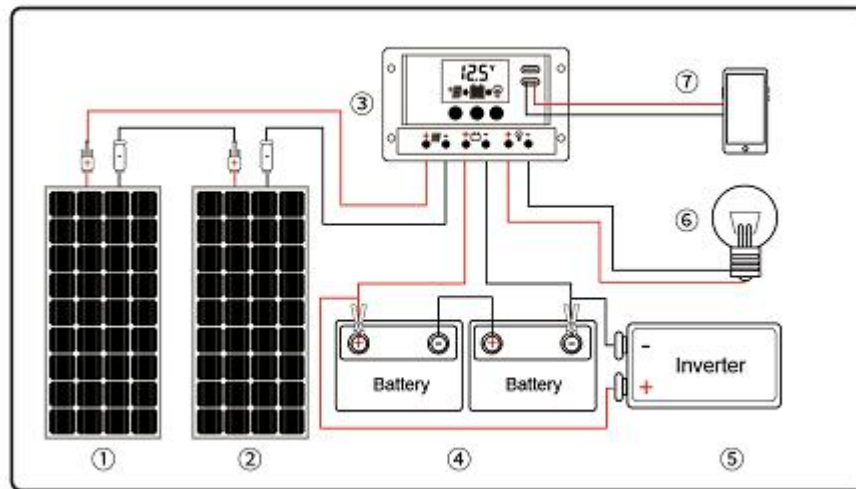
③Connection Method 1 of Solar Panels





Series and Parallel Connection of Positive Energy Panel

① Schematic Diagram of Glass Panels in Series (for Flexible Solar Panels)

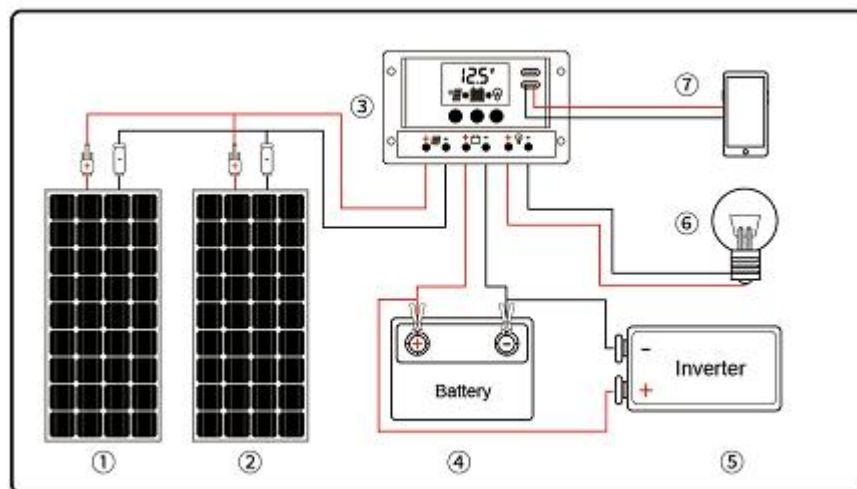


- ① Solar Panels
- ② Solar Panels
- ③ Controller
- ④ Battery
- ⑤ Inverter
- ⑥ Light Bulb
- ⑦ Device

Note: In case of series connection, we need to select the solar panels with uniform current in series. If different currents are connected in series, the current will choose the one with low current as the current of our system. For example, an 18V5A solar panel is connected in series with an 18V4A solar panel. The voltage changes to 36V and the current changes to 4A.

The voltage of two solar panels in series is 36V, which requires two 12V batteries in series to make the voltage reach 24 V before charging.

② Parallel Connection Diagram of Glass Panels (for Flexible Solar Panels)

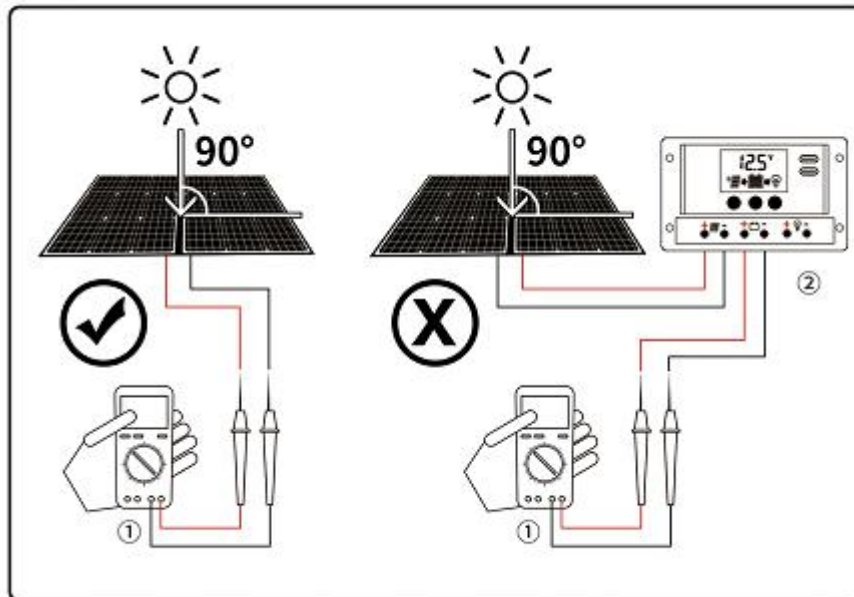


Note: If you want to connect two solar panels in parallel, first make sure they have the same voltage. The current of 100W solar panel is 5.56A. If two solar panels are connected in parallel, the current will be added. The maximum current of two 100w solar panels in parallel can reach 11.12A, and a 20A controller is required. When using more solar panels in parallel, please select the controller according to the sum of

the solar panel current.

Please connect in strict accordance with the above order, otherwise the controller may be damaged. The disassembly order is opposite to the wiring sequence.

Correct Test Method of Solar Panel



① Testing Instrument

② Controller

Precautions for Power Measurement:

- 1、 Put all the load aside for testing (do not connect the controller).
- 2、 The test shall be carried out under the condition of good midday sunlight, and the illumination panel needs to wait for 5-8 minutes to test (During the midday sunlight, the panel is tilted, and the sun is perpendicular to the panel at 90 degrees.).
- 3、 During the test, there should be no obstructions (including figures, branches, controllers, etc., and wires should not be placed on the panel).

Precautions for Using Solar Panels

- 1、 The display voltage of the controller is not the panel voltage, but the voltage that has been connected to both ends of the battery of the controller. This voltage will increase with the charging current, and finally reach full load. (The full load voltage of 12V lead acid battery is 14.6V.)
- 2、 When using flexible solar panel, attention should be paid to heat dissipation. Especially when it is used on the top of the car, it needs to be isolated from the roof.
- 3、 Flexible solar panels can be bent within 30 degrees. However, as the main material (cell chip) inside is brittle material, it is not recommended to bend regularly. If you bend the product with big

height, this will make the electrical performance decline.

4、 The development of FFSP (Flexible Foldable Solar Panel) is mainly portable and functional, supplemented by structural installation and fixed use. All our materials are basically waterproof and moisture-proof, but it is strictly forbidden to soak them for a long time, especially the cloth on the surface, which will decay rapidly due to the use of salt water and other chemicals, so they should be taken back immediately after use and stored in a cool and dry place.

5、 Solar panel power generation is limited, if you need to supply power to household appliances, please consult customer service.

6、 Due to the test dimension, light intensity and temperature of each area, there are differences. At present, the international standard for testing solar panels is 1000 light intensity at 25°C as the laboratory test standard. Under normal circumstances, if the outdoor test wattage reaches 80%, it is already an ideal state. Please don't take this as the poor performance of our products.

7、 When you are testing the voltage and current of the solar panel: the angle of the solar panel needs to be adjusted more, and the illumination perpendicular to the sunlight at the angle of 90 degrees is the best.

Contact Information

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