



Website: <https://sungoldpower.com/>

# 2x100W 12V Polycrystalline Solar Panel Kit



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## 1. Introduction

Sungoldpower solar panel kit provide quiet, clean energy that can be used just about anywhere. Solar panel kits are an easy way to install solar on your camper without the hassle of building your own DIY system. Each kit comes equipped with a high quality solar panel that features highly efficient silicon solar cells. A new generation of intelligent solar charge and discharge controller also come with the package, it has strong stability and high service life. This controller is 12V/24V automatic identification, with automatic detection battery voltage function, pwm charging way and comprehensive protection function: overcharge, over-discharge, over-current, short-circuit, reversed.

### Feature:

- ◆ The long-lasting 100W Polycrystalline solar panel, the waterproof design ensures that the panel can be used in all weather conditions.
- ◆ High modules conversion efficiency.
- ◆ IP67 Rated waterproof solar panel connectors and reach 25 years outdoor service life standard.
- ◆ High quality Z style solar panel bracket, aluminum corrosion-free construction which makes the installation work easy, affordable and quick.
- ◆ Easy Installation with pre-drilled hole. Corrosion-resistant aluminum frame for extended outdoor use.

## 2. Included Components



### JN Series 20A Solar Controller:

- \*12V/24V automatic identification
- \*Strong stability and high service life
- \*Automatic detection battery voltage function
- \*Comprehensive protection function: overcharge, over-discharge, over-current, short-circuit, reversed



### Solar Panel Connector Extension Cables:

- \*Waterproof and dustproof
- \*TUV Certified and ROHS Compliant
- \*Hard plastic connectors for female and male connectors



**Z Bracket:**

- \*Aluminum corrosion-free construction
- \*Durable and light weight
- \*High quality Z style solar panel bracket

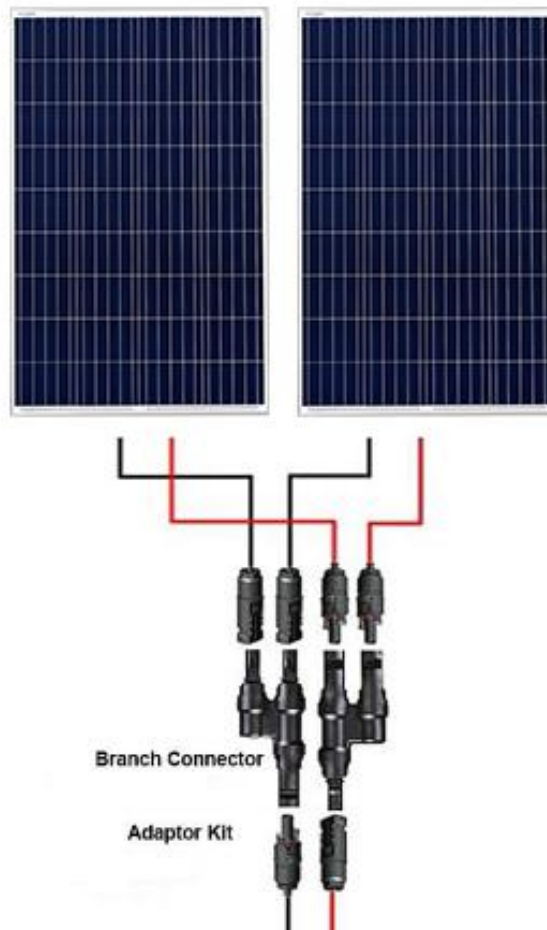


**Solar Panel Branch Connectors (MMF+FFM):**

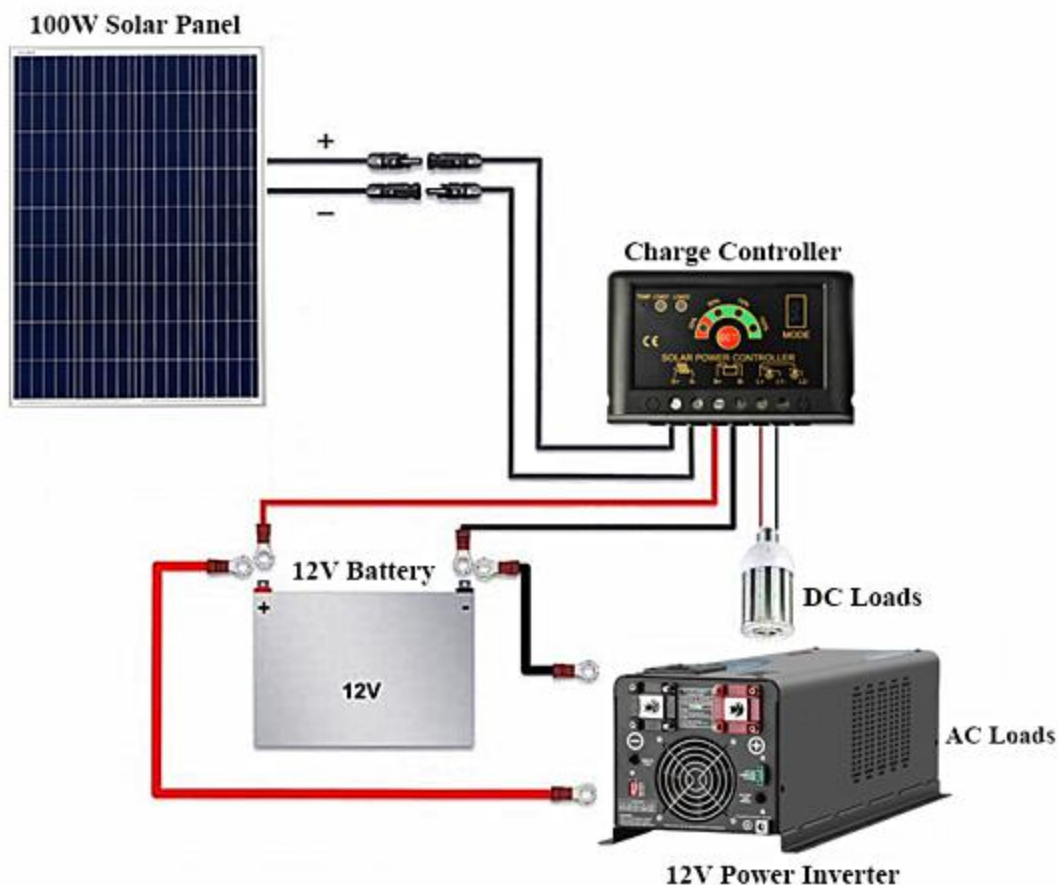
- \*Compatible with PV cables with different insulation diameters
- \*Resistance of extra high & low temperature and fireproof
- \*With excellent aging resistance and UV endurance

### 3. Recommended Wiring

#### 3.1 Wiring Diagram of 2Pcs Solar Panels



### 3.2 Solar System Wiring Diagram



## 4. Operation

### 4.1 Safety Advice

- The controller has reverse connection protection, but still it is strictly prohibited to pick back, and then against load there is some damage.
- Joint battery found controller doesn't work properly or doesn't work, must be timely inspection line, not allowed at the moment it is to pick up panels (panels and battery at the same time meet back and may damage the controller).
- Battery has lots of energy, at any time to avoid battery accident short circuit.

### 4.2 Connection

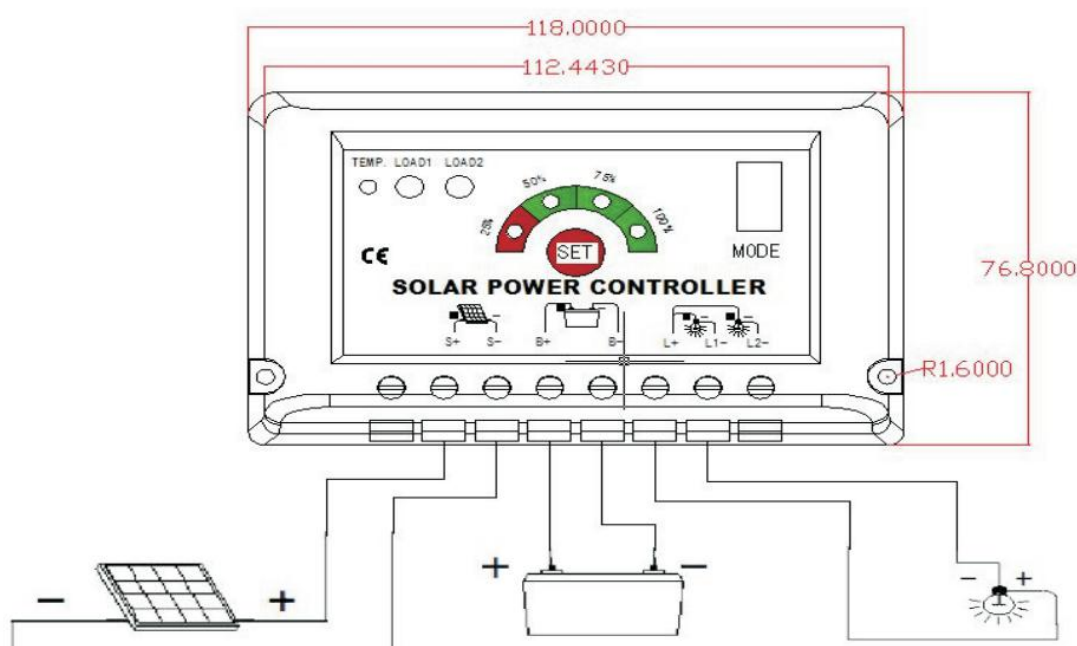
Please follow the wiring order: Battery → Solar Panel → Loads.

A. First joint battery (positive on the left), connected correctly, digital tube appear "1" or "2", ("1" representative into 12 V system, "2" representative into 24 V system), after a few seconds, LOAD light, electricity display bright. The load will long off during the day in the streetlight, under voltage and over voltage the LOAD also long off. Otherwise check line.

B. After joint panels (positive on the left) connected correctly, electricity display began to run code, into the charging status. Otherwise check line.

C. The last joint load (shown in bulb, positive on the left) connected correctly, lamp luminous.

**Note: Above ABC must pick up in order, otherwise, it will damage the controller.**



### 4.3 Status Indication

LED Lamp	Indicates Content	State	Function
Load	Load Lamp (Green Led)	Long Bright	Load terminal have output
		Long Out	Load terminal no output
Battery	Battery Indicator (Four red Led)	Long bright (Or some of the long light)	Battery Power(25%-100%)
		Move Scintillation	Charging State (panel pressure voltage is greater than the battery)

\* TEMP: on behalf of the temperature sensor, according to different automatic temperature adjustment each point voltage.

### 4.4 Digital tube display and key SET

A. Press the "SET" after the digital tube off and release it withing 5 seconds. When the digital tube display "H", it means you enter to the first period time setting. 0 to F represent 0 to 15 hours. Increased by 1 each time you press the "SET". Please wait 3 seconds after done the setting, when the digital tube auto show the "h" means enter to first power setting. 0 to A represent 0, 10%,20%,30%.....100% power, also increase by 1 each time you press the "SET".

B. Press the "SET" after the digital tube off and release it withing 5-10 seconds. When the digital tube display "P" that means you enter to the second period time

setting. 0 to F represent 0 to 15 hours. Increased by 1 each time you press the "SET". Please wait 3 seconds after done the setting, when the digital tube auto show the "u" means enter to the second power setting. 0 to A represent 0, 10%,20%,30%.....100% power, also increase by 1 each time you press the "SET".

C. Press the "SET" after the digital tube off and release it withing 10-15 seconds. When the digital tube display "L" that means you enter to the third period time setting. 0 to F represent 0 to 15 hours. Increased by 1 each time you press the "SET". Please wait 3 seconds after done the setting, when the digital tube auto show the "g" means enter to the third power setting. 0 to A represent 0, 10%,20%,30%.....100% power, also increase by 1 each time you press the "SET".

D. Press the "SET" after the digital tube off and release it withing 15-20 seconds. The digital tube show "U" means enter to model setting: "1" means household model; "2" means streetlight model.

E. Press the "SET" after the digital tube off and release it after 20 seconds. Controller restore to factory setting and the digital tube display "Y".

**ALL of the settings must be taken after the digital tube off.**

## 5. Technical Specifications

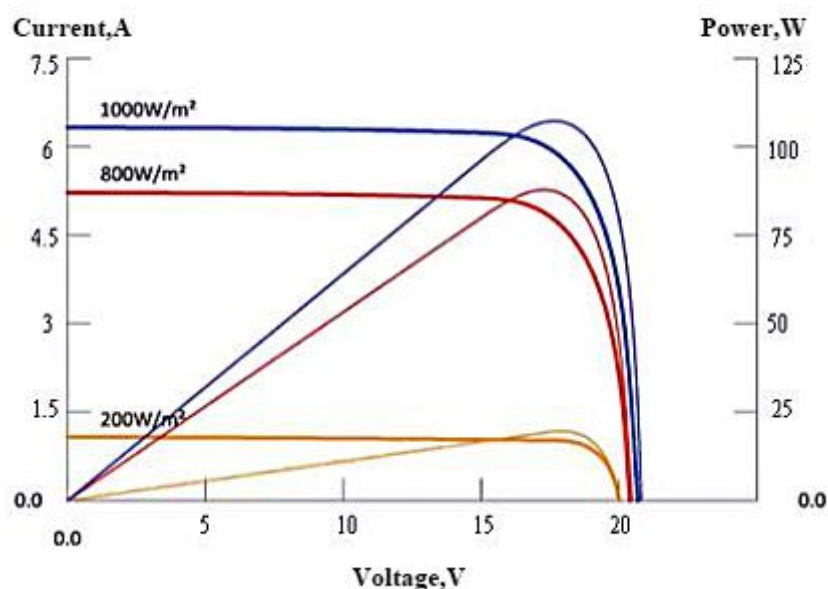
### 5.1 Solar Panel Parameters

Type of Module	SG-100WM
Maximum Power (W)	100W
Tolerance (%)	±3%
Voltage (V)	DC 12V
Voltage at Pmp	18.6V
Current at Pmp	5.38A
Open-Circuit Voltage (V)	22.6V
Short-Circuit Current (A)	5.81A
Module Efficiency (%)	15
Solar Cell Efficiency (%)	18.3
Junction Box	IP65
Cable Connector MC4	IP65
Maximum system voltage (V)	DC1000
Operating Temperature(°C)	-40°C ---85°C
Dimensions	36*26.3*1.1 inch

Weight	14LB*2
STC: Irradiance 1000w/m <sup>2</sup> , Temperature 25°C, AM=1.5	

## 5.2 I-V Curves

Current-Voltage & Power-Voltage Characteristics Various Irradiance Levels



Short Circuit Current Temperature Coefficient %/°C	0.06
Open Circuit Voltage Temperature Coefficient %/°C	-0.34
Maximum Power Temperature Coefficient %/°C	-0.47
Performance Warranty : performance of 90% of power output for the first 12 years, performance of 80% for the next 25 years	

## 5.3 Charger Controller Parameters

Rated Voltage	12 v, 24 v Auto
Strong Charging Pressure	14.8V/29.6V
Equilibrium Charging	14.5V/29V
Float Charging Pressure	13.7V/27.4V
Under Voltage	10.8V/21.6
Under Recover Voltage	13V/26V
Maximum Charging Current	20A
Maximum Load Current	20A



Controller Protect	Overcharge, over-discharge, over-current, short-circuit, reversed
Charging Way	PWM charging way
Working Temperature	-40-60°C
Weight (gross)	200g
Product Size	136*92*31mm
Protection Level	IP56

## 6. Frequently Asked Questions

Q1. What gauge are the wires that come off the panels?

A. The wires come with panels is 13AWG.

Q2. Is the solar kit waterproof ?

A. The solar panels are fully waterproof (IP66 class), the controller is not.

Q3. How many feet of cable come with the kit?

A. The original cable on the panel is 0.8m, but it will come with additional 3m cable, additional cable is for panel and controller, so you need buy the cable which is from controller to battery.

Q4. What is the warranty?

A. 25 Years transferable power output for solar panel and 1 year for accessories.

Q5. Do I need to clean the solar panels?

A. Yes, dust, bird droppings and other debris can lower the efficiency of a solar panel. With a view to keep your solar panels performing well, it is essential to clean them thoroughly.