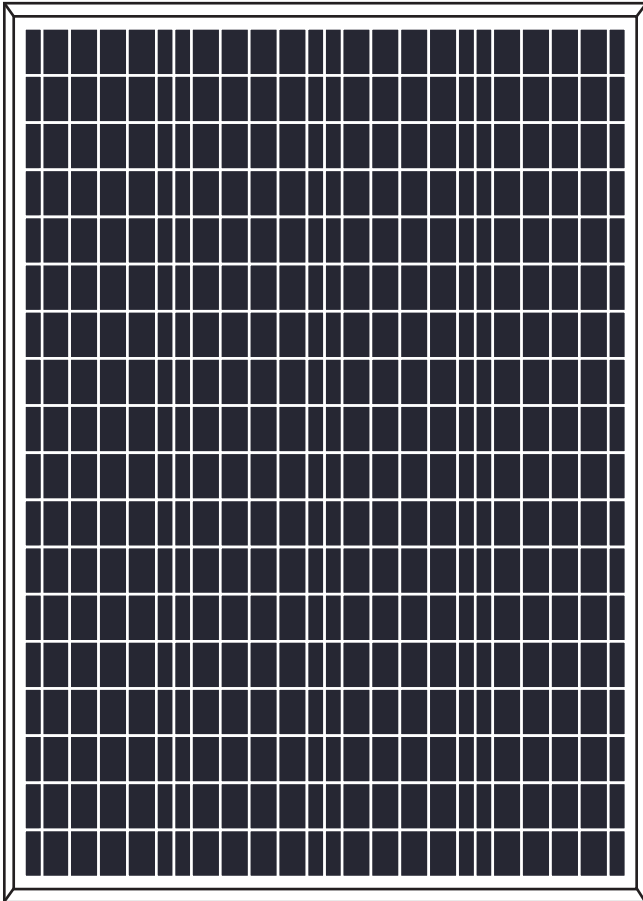


BougeRV

# **INSTRUCTIONS**

# **MANUAL**

For 120W solar panel kit



# WARRANTY CERTIFICATES

BougeRV 120W Solar Panel Kit comes with an **18-month warranty** that commences from the date of purchase. If you have any questions during use, please feel free to contact us at



[service@bougeRV.com](mailto:service@bougeRV.com)



1-669-232-7427 (Leave us voice messages)



[www.bougeRV.com](http://www.bougeRV.com)



Message through “Ask a question” in BougeRV Amazon shop.

## IMPORTANT!

Thank you for choosing BougeRV 120W Solar Panel KIT. Please read and understand the installation manual before installing BougeRV 120W Solar Panel Kit. With proper operation and maintenance, KIT will provide you with clean, renewable solar electricity for many years. This manual contains important installation, maintenance and safety information. Retain this manual for future reference.

<b>Warranty Certificates</b>	<b>1</b>
<b>IMPORTANT!</b>	<b>1</b>
<b>1-Introduction</b>	<b>3</b>
1.1 Disclaimer of Liability	3
1.2 Limited Warranty	3
<b>2-Safety Precautions</b>	<b>3</b>
<b>3-120W Solar Panel Kit Details</b>	<b>4</b>
3.1 Package Contents	4
3.2 Solar Panel Kit Pecification	4
3.3 Solar Panel Electrical parameters	5
<b>4-Electrical Connections</b>	<b>5</b>
4.1 Series Connection	5
4.2 Parallel Connection	5
<b>5-Installation</b>	<b>6</b>
5.1 Installation Overview	6
5.2 Module Handling	6
5.3 Mounting	6
<b>6-Maintenance and Cleaning</b>	<b>8</b>
<b>7-Frequently Asked Questions</b>	<b>9</b>

# 1-INTRODUCTION

## 1.1 Disclaimer of Liability

The installation techniques, handling, and use of this product are beyond company control. Therefore, BougeRV assumes no responsibility for loss, damage, or expense resulting from improper installation, handling, or use.

## 1.2 Limited Warranty

Kit limited warranties are described in full in the BougeRV warranty certificates. In summary, the Limited Warranties do not apply to any of the following:

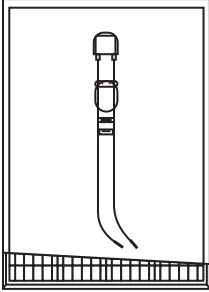
The kit which in BougeRV's absolute judgment have been subjected to misuse, abuse, neglect or accident; alteration; or improper installation, application, or removal. This includes, but is not limited to, installation, application, or removal by any party other than a BougeRV authorized dealer; non-observance of BougeRV's installation, user's and/or maintenance instructions; power failure surges, lightning, flood, fire, accidental breakage, or other events beyond BougeRV's control.

# 2-SAFETY PRECAUTIONS






- Do not stand on, drop, scratch, or allow objects to fall on solar panel as doing so may damage them and void the warranty.
- Do not place anything on the solar panel, even for a moment because resulting residue may damage or stain the glass surface.
- If the front glass is broken, or the back sheet is torn, contact with any panel surface or panel frame can cause electric shock.
- Broken J-boxes or connectors are electrical hazards as well as laceration hazards. Installers should remove any such solar panel from the array and contact BougeRV for disposal instructions.
- Do not install or handle the solar panel when they are wet or during periods of high wind.
- Do not block drain holes or allow water to pool in or near module frames.
- Unconnected connectors must always be protected from pollution (e.g dust, humidity, foreign particles, etc), prior to installation. Do not leave unconnected (unprotected) connectors exposed to the environment. A clean assembly environment is therefore essential to avoid performance degradation.

# 3-120W SOLAR PANEL KIT DETAILS

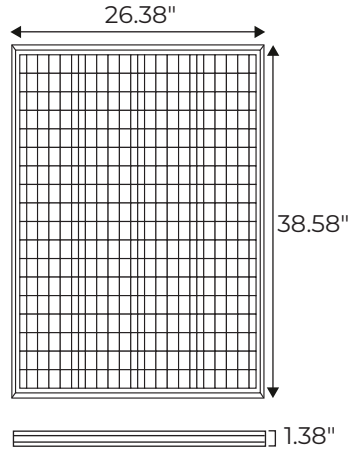
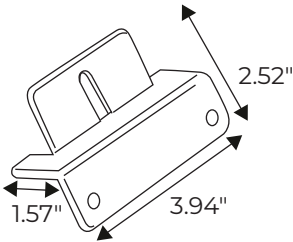
## 3.1 Package Contents:



120W solar panel with 3ft MC4 cable

Destiption	Picture	Quantity
Mounting brackets		4
Hex nuts		4
1/4-20 x 3/4" hex bolts		4
Flat washers		8
Split ring lock washers		4

## 3.1 Package Contents:



### 3.3 Solar Panel Electrical parameters

Peak power Pm (W)	<b>120±3%</b>
Open circuit voltage Voc (V)	<b>22.1±3%</b>
Max.power voltage Vmp (V)	<b>17.68±3%</b>
Max.power current Imp(A)	<b>6.79±3%</b>
Short circuit current Isc (A)	<b>7.13±3%</b>
Solar cells Efficiency	<b>22%±0.5%</b>
Solar cell	<b>Monocrystalline</b>
No.of cells and connections	<b>68pcs Series and parallel connection</b>
Lamination	<b>Tempered glass lamination</b>
Front cover (material / thickness)	<b>Tempered Glass / 3.2mm</b>
Encapsulant(material)	<b>EVA</b>
Frame (material / collar)	<b>Anodized aluminum frames</b>
Junction box model / size	<b>HX026</b>
Cable / Cable connector Model	<b>12AWG 3FT MC4 connectors</b>
Max.static load, front (e.g.,snow / wind)	<b>2400Pa</b>
Max.static load, back (e.g.,wind)	<b>2400Pa</b>
Max.hailstone impact (diameter / velocity)	<b>25mm / 23m/s</b>
Max.system voltage(V)	<b>1000V DC</b>
Series fuse rating	<b>15A</b>
Application Class	<b>Class A</b>
NOCT	<b>118.4±3.6°F</b>
Operating temperature limits	<b>-4°F~~ +167°F</b>
Product Certification /Standard	<b>CE,ROHS</b>

## 4-ELECTRICAL CONNECTIONS

### 4.1 Series Connection

The panel may be wired in series to produce the desired voltage output.

### 4.2 Parallel Connection

The solar panel can be wired in parallel to produce the desired current output with the parallel connector.

## 5-INSTALLATION

### 5.1 Installation Overview

- Open the packaging and check to make sure that all parts have been received.
- Arrange to have on hand the proper tools (NOT INCLUDED) to carry out the mounting installation.
- Determine the mounting location of the solar panels .
- Mount the charge controller (NOT INCLUDED) within 5 feet of battery or loss of current may occur.
- Wire the battery (NOT INCLUDED) to the charge controller and then the solar panel to the charge controller to ensure that the correct polarity is observed.

### 5.2 Module Handling

- Use gloves when handling panels.
- The panel glass is sensitive to oils and abrasive surfaces, which may lead to scratches and irregular soiling.
- Do not place panels such that the glass comes in contact with abrasive surfaces, and minimize any contact with the glass in general.
- Do not place anything on the panels, even for a moment.
- Never lift or move the panel using the cables or the junction box under any circumstances.

### 5.3 Mounting

#### Recommendations

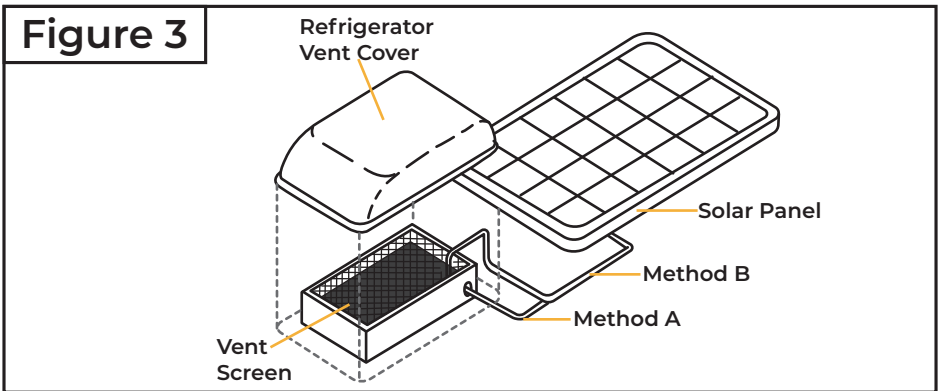
Choose a site for mounting the solar panels that is free from shade and located in an area that receives maximum sunlight daily. For maximum solar power absorption throughout the day, a tilt-mounting kit is recommended. (The tilt mount kit can be searched at [www.amazon.com/dp/B08DNQGLZR](http://www.amazon.com/dp/B08DNQGLZR) or "bougerv tilt brackets" in Amazon)

The solar panels can be permanently installed level using the hardware included. If you choose not to use the included Z brackets ensure that you create a ½ inch space between the mounting surface and the solar panel to allow for proper airflow under the solar panel.

When making connections ensure polarity is maintained, reverse polarity may cause damage and will void the warranty.

Measure the distance between the mounting site and the battery location. The charge controller should be mounted in close proximity to the battery bank within 5 feet. Refer to the DC electrical wire guide to choose an appropriate gauge wire for the length of the wire.

If you choose to mount your Solar Panel to your RV, be sure you solidly mount your panels to the roof. If you have a rubber roof over thin plywood you may want to use molly fasteners (NOT INCLUDED) to get a better grip. If you have a fiberglass roof, drill some pilot holes through the fiberglass to reach plywood below. This will prevent cracking or damaging the fiberglass. If your RV is equipped with a metal roof you must mount the solar panel to the joists supporting the roof.



The wire from the solar panel can be routed to the interior of the RV through the roof top refrigerator vent. (In this kind of installation attempt to mount the panel near the refrigerator vent. See Figure 3.

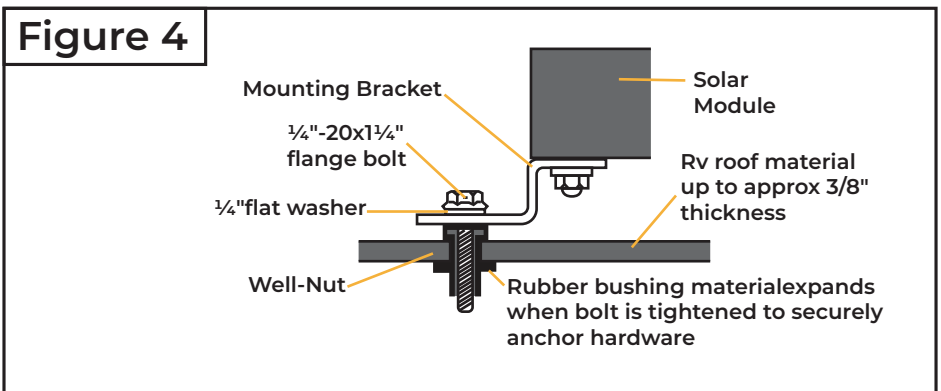


Figure 4 shows an example of how the panel can be mounted with the Z brackets included.



## 6-MAINTENANCE AND CLEANING

Periodic cleaning of panel glass has resulted in improved performance levels, especially in regions with low levels of annual precipitation; therefore BougeRV recommends periodic cleaning of the panels.

In order to avoid potential risk of electrical shock or burn, BougeRV suggests cleaning the modules during early morning and evening with low irradiance and low modules temperature especially area with high average temperature.

In order to avoid potential risk of electrical shock, do not try to clean the modules with glass damage or expose wires.

To clean a panel, wash its glass surface with potable, non-heated water. Normal water pressure is adequate, but pressurized water (up to 1500 psi) may be used. Some fingerprints, stains, or accumulations of dirt on the glass may be removed with over-the-counter glass cleaners, or with a 3% soap-and-water solution.

For smaller systems, wet the panel glass with the solution, let it stand for five minutes, and then wet them again and use a soft sponge or seamless cloth to wipe the glass surface in a circular motion.

For large systems, wet the panels with the cleaning solution, let them stand for five minutes, and then rinse them with high-pressure water or a soft squeegee. Do not use harsh industrial-strength cleaning materials such as scouring powder, steel wool, scrapers, blades, or other sharp instruments to clean the panel glass. Use of such materials will void the product warranty.

## **7-FREQUENTLY ASKED QUESTIONS**

**Q: How to choose the appropriate solar accessories that fit the solar panel if I want to build a solar system on my own?**

A: BougeRV provides you with professional technical services. You can send us your needs and the parameter information or instructions of your purchased accessories directly to our email: [service@bougerv.com](mailto:service@bougerv.com), we will help you build the ideal DIY solar system.

**Q: How many watts does this panel produce?**

A: Solar panel output power is affected by several factors such as light intensity, light angle and shadow shading, the power generation is about 60-80%, so the output power of 120W solar panel is about 72W~~96W.

**Q: What size breaker should be used between this panel and the charge controller?**

A: The solar panel is a Max of 6.79 amps, so a 10amp breaker would do it for a single panel

**Q: I want to have more solar power and charge my battery faster – can I upgrade the solar kit?**

A: You can easily upgrade this kit from 120W to 240W by adding a similar 120W solar panel to the same charge controller. The output will double and the charging time will halve.

**Q: Does it work with the portable power station?**

A: Yes, BougeRV solar panels with mc4 connectors are suitable for most portable power stations on the market. If you want to inquire about the specific model, please contact us.

**Q: What should I do if my solar panel I received is damaged, missing parts or no output?**

A: Please send relevant pictures to our after-sales mailbox [service@bougerv.com](mailto:service@bougerv.com) immediately, and leave your order number. We will reply one by one according to the chronological order sent by the customers.

**Q: Do I need to clean my solar panel?**

A: Yes. Regular cleaning increases energy yield. Always remember that any shading will reduce the output of the solar panel.