

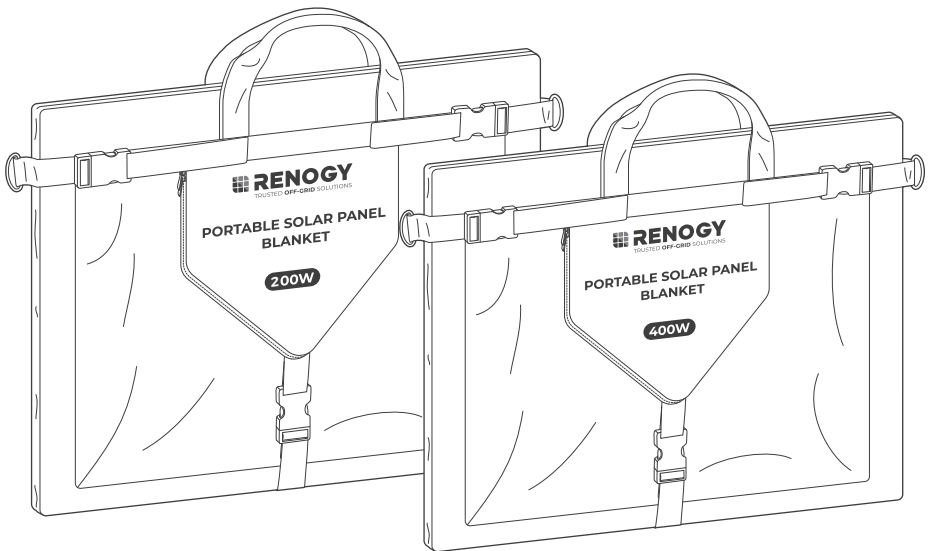
RENOGY

Portable Solar Panel Blanket

200W/400W

RPP200SB-SE-G1
RSP400SB-G3

VERSION A0
April 1, 2025



USER MANUAL

Before Getting Started

The user manual provides important operation and maintenance instructions for Renogy 200W/400W Portable Solar Panel Blanket (hereinafter referred to as solar panel blanket).

Please read the user manual carefully before operation and save it for future reference. Failure to observe the instructions or precautions in the user manual can result in electrical shock, serious injury, or death, or can damage solar panel blanket, potentially rendering it inoperable.

- Renogy ensures the accuracy, sufficiency, and the applicability of information in the user manual at the time of printing due to continual product improvements that may occur.
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- Renogy reserves the right to change the information in the user manual without notice. For the latest user manual, visit [renogy.com](https://www.renogy.com).

Disclaimer

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Online Manual



User Manual



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General Safety Information

Renogy accepts no liability for any damage caused by:

- Force majeure including fire, typhoon, flood, earthquake, war, and terrorism.
- Intentional or accidental misuse, abuse, neglect or improper maintenance, and use under abnormal conditions.
- Improper installation, improper operation, and malfunction of a peripheral device.
- Contamination with hazardous substances or radiation.
- Alterations to the solar panel blanket without express written consent from Renogy.

The installation and service of the solar panel blanket must be carried out by qualified personnel. Qualified personnel refer to trained and licensed electricians or installers with all the following skills and expertise:

- Knowledge of the functional principles and operation of on-grid and off-grid energy storage system.
- Knowledge of the risks and dangers associated with the installation and service of electrical devices and acceptable mitigation methods.
- Knowledge of the installation and service of electrical devices.
- Knowledge of and adherence to the user manual and all safety precautions and best practices.
- Knowledge of local installation regulations.
- Electrical license for the installation and service of energy storage system required by the county or state.

The following symbols are used throughout the user manual to highlight important information.



WARNING: Indicates a potentially dangerous condition which could result in injury or death.



CAUTION: Indicates a critical procedure for safe and proper installation and operation.



NOTE: Indicates an important step or tip for optimal performance.

WARNING

- DO NOT disassemble the solar panel blanket or remove any attached components.
- DO NOT puncture, drop, crush, penetrate, shake, strike, or step on the solar panel blanket.
- DO NOT open, dismantle, repair, tamper with, or modify the solar panel blanket.
- DO NOT place the solar panel blanket on a surface constructed from combustible material.
- DO NOT expose the solar panel blanket to direct flame or heat sources.
- Please keep the solar panel blanket out of reach of children unless supervised by an adult.
- Please keep the solar panel blanket away from explosives and corrosive substance

CAUTION

- DO NOT step, walk, stand, or jump on the solar panel blanket. Localized heavy loads may cause damage on solar cell, which will ultimately compromise the performance of the solar panel blanket.
- DO NOT band the solar panel blanket, or the panel will be broken.
- DO NOT move the solar panel blanket by pulling on the junction box.
- DO NOT immerse the solar panel blanket in water.
- DO NOT expose the solar panel blanket to rain or use it in humid environments for extended periods.
- Dispose of the solar panel blanket according to the local recycling and environmental regulations.

Introduction

Renogy 200W/400W Portable Solar Panel Blanket features high-efficiency TOPCon monocrystalline solar cells and is equipped with both MC4 output ports and USB output interfaces (applicable to RPP200SB-SE-G1 only), ensuring reliable charging during outdoor adventures. Its foldable design allows for easy storage, making it an ideal choice for SUV, pickup, and 4x4 truck camper users with limited space who cannot accommodate high-power portable solar panels.

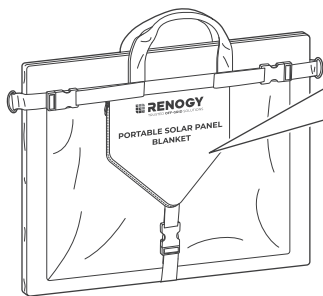
- **Lightweight, Compact Design**
Its lightweight and compact design allows it to be used as a windshield sunshade or as a supplement to rooftop solar panels. It can also be deployed directly on sunlit ground, providing versatile installation options.
- **Easy to Expand**
It supports series and parallel expansion, ensuring continuous and efficient solar energy supply for your journey.
- **High Efficiency Power On the Go**
Equipped with advanced cells boasting up to 25% efficiency, redefines portable solar power.

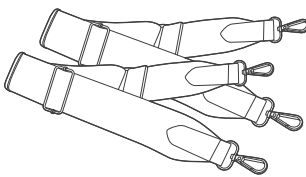
Model Number (SKU)

Renogy 200W Portable Solar Panel Blanket	RPP200SB-SE-G1
Renogy 400W Portable Solar Panel Blanket	RSP400SB-G3

What’s In the Box?

Renogy Portable Solar Panel Blanket* × 1





Shoulder Straps × 2



User Manual × 1

*The RPP200SB-SE-G1 model comes with two MC4 connectors and three USB ports.

*The RSP400SB-G3 model comes with only two MC4 connectors.

i Both the MC4 connectors and the junction box are placed in the storage pocket of the solar panel blanket.

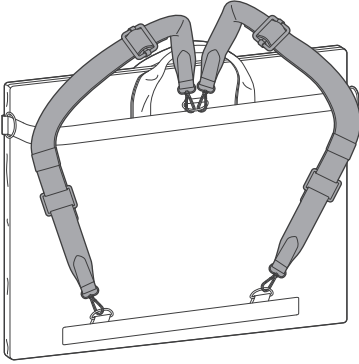
How to Properly Utilize the Shoulder Straps?

How to Adjust the Shoulder Strap Length?

To adjust the shoulder strap length, slide the buckle on the strap to extend or shorten it as needed.



Backpack-Style Carry



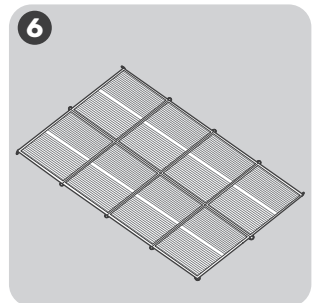
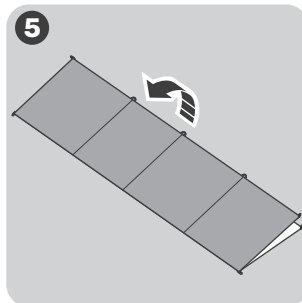
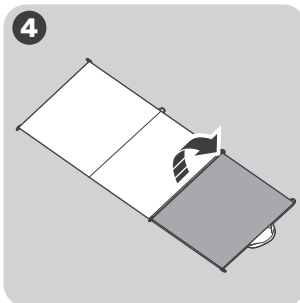
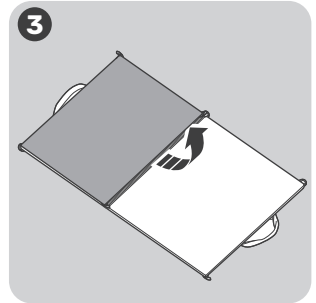
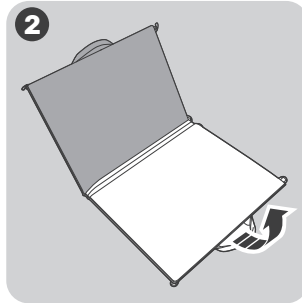
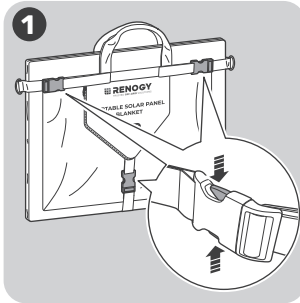
1. Adjust both shoulder straps to the same length.
2. Attach one end of the first shoulder strap to the buckle near the handle of the folded solar panel blanket, and the other end to the buckle on the bottom-left side.
3. Attach one end of the second shoulder strap to the buckle near the handle of the folded solar panel blanket, and the other end to the buckle on the bottom-right side.

You can then wear the bag like a backpack and start your journey.

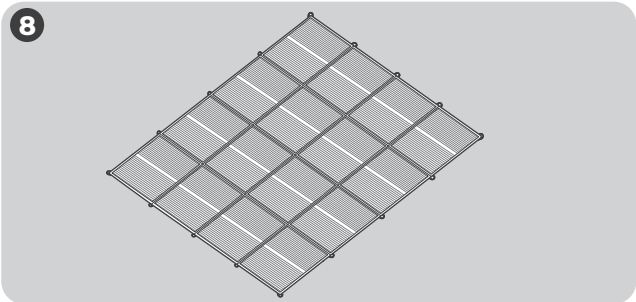
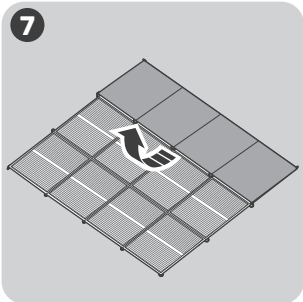
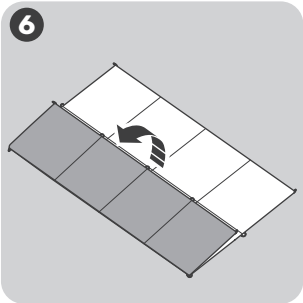
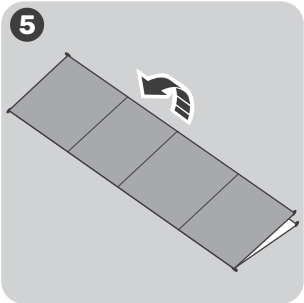
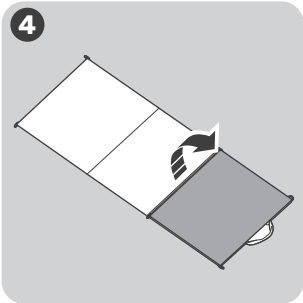
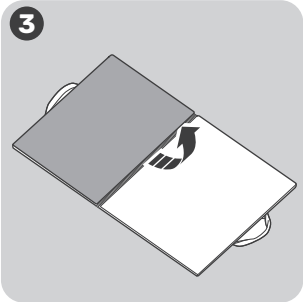
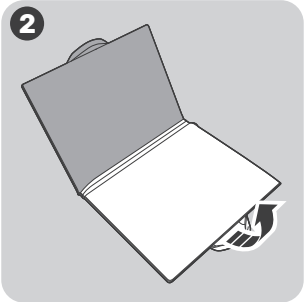
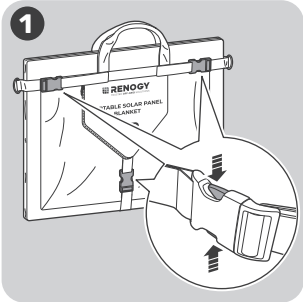
Folding/Unfolding

Follow the steps below to unfold your solar panel blanket. To fold it, simply reverse the steps.

Renogy 200W Portable Solar Panel Blanket (RPP200SB-SE-G1)



Renogy 400W Portable Solar Panel Blanket (RSP400SB-G3)



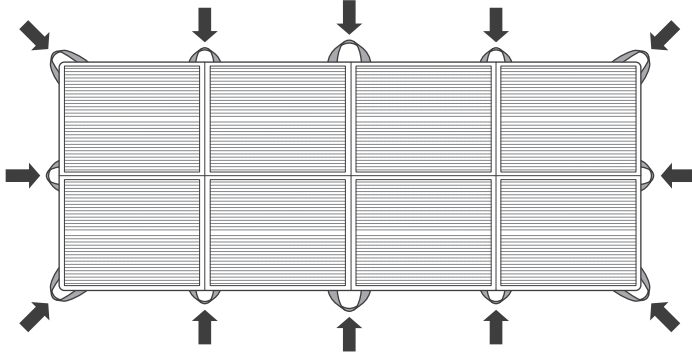
How to Properly Hang and Secure Your Solar Panel Blanket?

The specially designed "attachment loops" on all four sides of the solar panel blanket simplify device installation and hanging. You can use carabiners or other tools to securely fasten all the loops on any side and easily hang the blanket in your desired location.

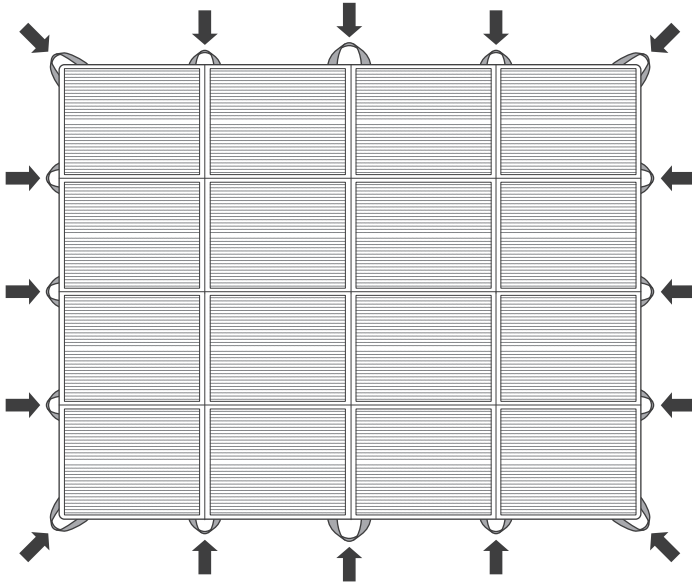


When hanging your solar panel blanket, always use all the loops on one side to ensure even weight distribution and avoid damage caused by excessive stress on a single loop.

Renogy 200W Portable Solar Panel Blanket (RPP200SB-SE-G1)



Renogy 400W Portable Solar Panel Blanket (RSP400SB-G3)



Charging

How to Charge a Battery?

The solar panel blanket can charge batteries efficiently when paired with a compatible charge controller, inverter charger, or battery charger specific to the battery in use. For charge controller and battery sizing details, you can refer to [Choose the Right Solar Charge Controller: A Comprehensive Guide](#) at Renogy Learning Center.

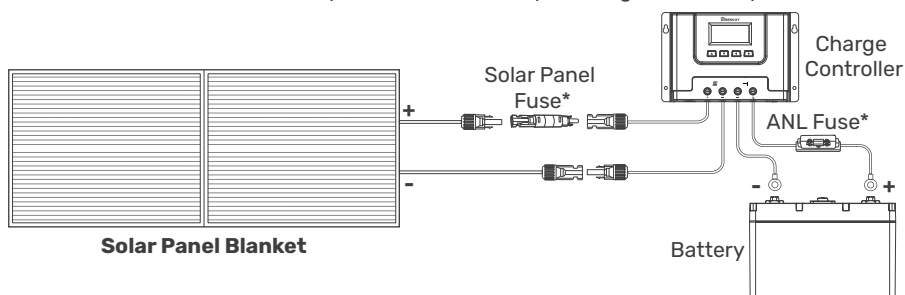
■ Wiring Instructions

The illustration in this section is based on a scenario involving one solar panel blanket with a charge controller and a battery. Similar rules apply to other scenarios. The user manuals of your charge controller, battery charger, battery, and inverter charger shall prevail.

Step 1: Connect the battery terminals of the charge controller to a battery using tray cables (sold separately). A battery fuse is required on the positive end to protect your battery.

Step 2: Connect a solar panel blanket to the solar input terminals of a charge controller (sold separately). A solar panel fuse is required on the positive end to protect your charge controller.

Step 3: Set charging parameters on the charge controller in accordance with the user manual of the controller, and the solar panel blanket is ready to charge the battery.



i *Both the battery ANL fuse and solar panel fuse are available on [renogy.com](#). For fuse sizing details, refer to [Size Fuses or Circuit Breakers for a Solar Power System](#) at Renogy Learning Center.

i For scenarios involving solar panel blankets connected in series or parallel, refer to [“Series/Parallel Connection”](#) in this manual.

How to Charge a Portable Power Station?

The solar panel blanket is compatible with portable power stations with a DC input voltage and power range meeting the following criteria:

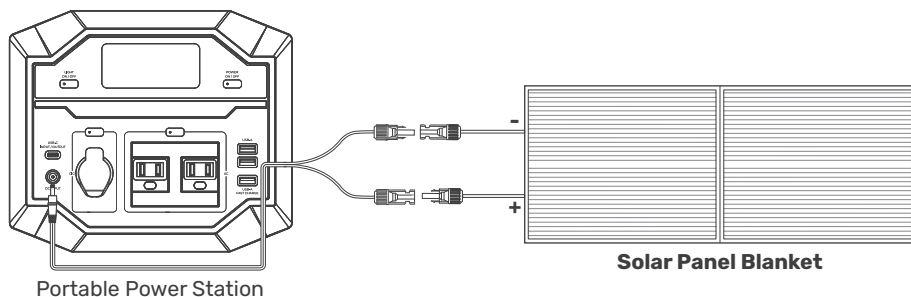
Model	Minimum DC Input Voltage of Power Station	Maximum DC Input Voltage of Power Station	Maximum DC Input Power of Power Station	Maximum DC Input Current of Power Station
RPP200SB-SE	< 16.8V	> 19.6V	≥ 200W	> 13.1A
RSP400SB	< 33.6V	> 39.2V	≥ 400W	> 13.1A

i For scenarios involving solar panel blankets connected in series or parallel, refer to [“Series/Parallel Connection”](#) in this manual.

■ Wiring Instructions

Step 1: Place a solar panel blanket under direct sunlight. Steer clear of objects that can shade the solar panel and slow down the charging process.

Step 2: Connect a solar charge cable (sold separately) from the MC4 solar connectors of the solar panel blanket to the DC input port of a power station.



i The solar charge time is highly dependent on the solar radiance and the ambient temperature.

⚠ The operating voltage of the solar panel blanket shall exceed the minimum DC input voltage of power station, and the open-circuit voltage shall NOT exceed the maximum DC input voltage of power station.

How to Charge USB Devices? (RPP200SB-SE-G1 Only)

USB charging is applicable to 200W Portable Solar Panel Blanket (RPP200SB-SE-G1) models only. The RPP200SB-SE solar panel blanket provides three USB ports as below:

- USB C (PD3.0): 5V/3A, 9V/3A, 12V/3A, or 15V/3A, 45W Max
- *USB A1 (QC): 5V/3A, 9V/2A, or 12V/1.5A, 18W Max
- *USB A2 (QC): 5V/3A, 9V/2A, or 12V/1.5A, 18W Max

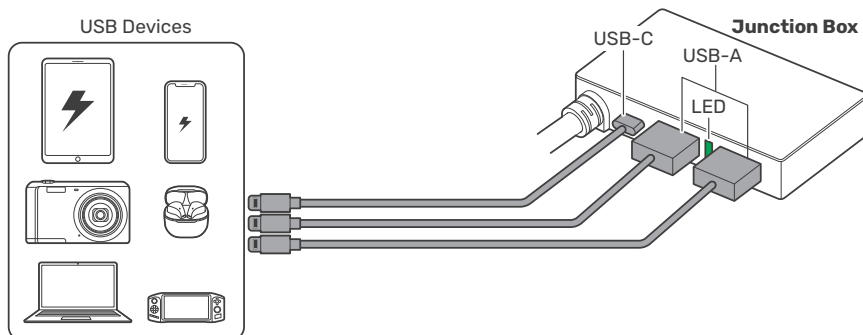
i *The two USB-A ports are identical in both size and specifications.

■ Wiring Instructions

Step 1: Open the storage pocket on the solar panel blanket, and locate the junction box.

Step 2: Connect your USB device to a USB port on the box on demand.

The LED glows solid green when the solar panel blanket begins charging your USB device and turns off when there is no output from the solar panel blanket.



Series/Parallel Connection

To expand the power output, connect multiple Renogy 200W/400W Portable Solar Panel Blankets either in series or parallel.

When connecting solar panel blankets in series or parallel, the following conditions must be satisfied:

- 1. All solar panel blankets should have been purchased around the same time.
- 2. The cables between each connected solar panel blanket should be of equal length to ensure that all solar panel blankets can work equally together.

The total current, voltage, and power vary specific to the connection mode. The table below lists the details:

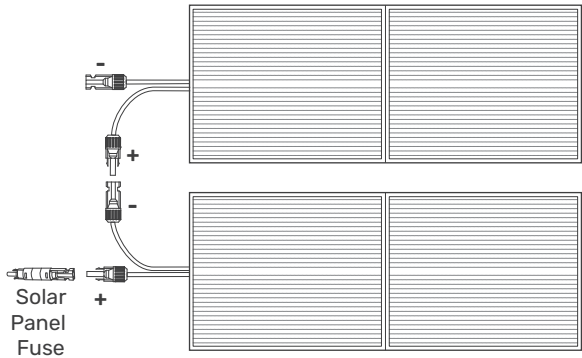
Item	Solar Panel Blankets in Series	Solar Panel Blankets in Parallel
Maximum Output Power (W)	$W_1 + W_2 + W_3$	$W_1 + W_2 + W_3$
Open-Circuit Voltage (U)	$U_1 + U_2 + U_3$	$U_1 = U_2 = U_3$
Short-Circuit Current (I)	$I_1 = I_2 = I_3$	$I_1 + I_2 + I_3$

i In the formula, 1, 2, or 3 represents the solar panel blanket number respectively.

Series Connection

To connect solar panel blankets in series, follow the steps below:

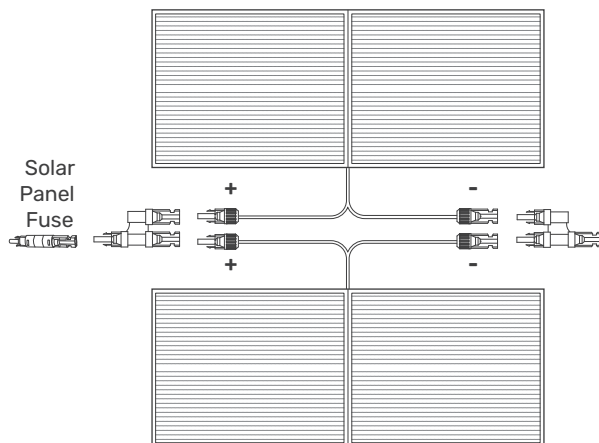
- Step 1:** Connect the male connector of one solar panel blanket to the female connector of the other.
- Step 2:** Connect a solar panel fuse on the positive output end to protect your charge controller, battery charger, or inverter charger. For fuse sizing details, refer to [Size Fuses or Circuit Breakers for a Solar Power System](#) at Renogy Learning Center.



i For scenarios requiring longer cables, we recommend using Renogy Solar Panel Extension Cable (SKU: RNG-EXTCB), available on [renogy.com](https://www.renogy.com).

Parallel Connection

To connect solar panel blankets in parallel, join the positives of two blankets together, as well as the negatives of each blanket together by using branch connectors or other accessories with similar functions. The illustration in this section is based on a scenario involving two solar panel blankets with a pair of Renogy Solar Y Branch Connectors.



A solar panel fuse is required on the positive end to protect your charge controller, battery charger, or inverter charger. For fuse sizing details, refer to [Size Fuses or Circuit Breakers for a Solar Power System](#) at Renogy Learning Center.



For more details on how to choose a proper branch connector, refer to [A Guide Between Series and Parallel Connections](#) at Renogy Learning Center.

FAQ

Q1: Why Is My Solar Panel Blanket under Producing?

Several factors can affect the performance of your solar panel blanket. In general, environmental conditions such as indirect sunlight, temperature rises, cloudy skies, and the accumulation of dirt and stains on the top glass can lead to reduced output.

Putting solar panel blankets at the optimal angle and to the best orientation is essential to obtain the maximum energy in a solar power system. For details, read [How to Find the Best Orientation and Angle of Solar Panels?](#) at Renogy Learning Center.

Q2: How Many Solar Panel Blankets Do I Need?

The best way to assess how many solar panel blankets you need is to understand and define the power load required from this system. Power is measured in watts and capacity is usually measured in watt-hours (the power output in watts multiplied by the number of hours required multiplied by a safety factor of 1.5-2).

It is therefore advisable to first size your battery bank based on the minimum capacity required and then decide how many blankets or how much power input is needed. For details, refer to [Sizing Your Solar System: A Comprehensive Guide for Panels, Batteries, Controllers, and Inverters](#) at Renogy Learning Center.

Specifications

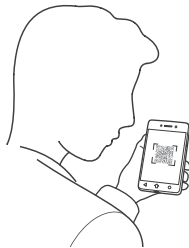
Model	RPP200SB-SE-G1	RSP400SB-G3
Max Power at STC	200W	400W
Optimum Operating Voltage	16.8V	33.60V
Optimum Operating Current	11.9A	11.9A
Open-Circuit Voltage	19.6V	39.2V
Short-Circuit Current	13.1 A	13.1 A
Cell Type	Monocrystalline Silicon	Monocrystalline Silicon
Connector	MC4 & USB	MC4
USB Output	● USB C: 5V/3A, 9V/3A, 12V/3A, or 15V/3A, 45W Max ● USB A (for each): 5V/3A, 9V/2A, or 12V/1.5A, 18W Max	N/A
Operating Temperature	14°F to 149°F / -10°C to 65°C	
Dimensions (Folded)	16.14 x 15.35 x 3.07 in (410 x 390 x 78 mm)	16.54 x 15.83 x 4.13 in (420 x 402 x 105 mm)
Dimensions (Expanded)	61.41 x 31.89 x 1.49 in (1560 x 810 x 38 mm)	64.96 x 62.99 x 1.50 in (1650 x 1600 x 38 mm)
Shoulder Strap Length (Each)	2.64 to 3.82 in (±0.4 in) / 67 to 97 mm (±10 mm)	
Weight	8.82 lbs / 4.0 kg	16.09 lbs / 7.3 kg
Certifications	FCC, IC, PSE, CE, RoHS, TSCA, and CA65	
IP Protection	IP65 Splash-proof	
Warranty	2 years	

Renogy Support

To discuss inaccuracies or omissions in this quick guide or user manual, visit or contact us at:

 | renogy.com/support/downloads

 | contentservice@renogy.com



Questionnaire Investigation



To explore more possibilities of solar systems, visit Renogy Learning Center at:

 | renogy.com/learning-center

For technical questions about your product in the U.S., contact the Renogy technical support team through:

 | renogy.com/contact-us



1(909)2877111

For technical support outside the U.S., visit the local website below:

Canada |  | ca.renogy.com

China |  | www.renogy.cn

Australia |  | au.renogy.com

Japan |  | jp.renogy.com

Other Europe |  | eu.renogy.com

Germany |  | de.renogy.com

United Kingdom |  | uk.renogy.com

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- (1) Reorient or relocate the receiving antenna.
- (2) Increase the separation between the equipment and receiver.
- (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- (4) Consult the dealer or an experienced radio / TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.



Renogy Empowered

Renogy aims to empower people around the world through education and distribution of DIY-friendly renewable energy solutions.

We intend to be a driving force for sustainable living and energy independence.

In support of this effort, our range of solar products makes it possible for you to minimize your carbon footprint by reducing the need for grid power.



Live Sustainably with Renogy

Did you know? In a given month, a 1 kW solar energy system will...



Save 170 pounds of coal from being burned



Save 300 pounds of CO₂ from being released into the atmosphere



Save 105 gallons of water from being consumed



Renogy Power PLUS

Renogy Power Plus allows you to stay in the loop with upcoming solar energy innovations, share your experiences with your solar energy journey, and connect with like-minded people who are changing the world in the Renogy Power Plus community.



@RenogySolar



@renogyofficial



@Renogy

Renogy reserves the right to change the contents of this manual without notice.

Manufacturer: RENOGY New Energy Co.,Ltd

Address: No.66, East Ningbo Road Room 624-625 Taicang German
Overseas Students Pioneer Park JiangSu 215000 CN



eVatmaster Consulting GmbH
Raiffeisen Street2 B11,63110
Rodgau, Hessen, Germany
contact@evatmaster.com



EVATOST CONSULTING LTD
Office 101 32 Threadneedle Street,
London, United Kingdom, EC2R 8AY
contact@evatost.com



RENOGY
JAPAN株式会社