

# SOLAR SUITCASE

100W

Version 2.0



## **Important Safety Instructions**

**Please save these instructions.**

This manual contains important safety, installation, and operating instructions for the charge controller. The following symbols are used throughout the manual to indicate potentially dangerous conditions or important safety information.

**WARNING**

Indicates a potentially dangerous condition. Use extreme caution when performing this task

**NOTE**

Indicates a procedure or function that is important to the safe and proper operation of the controller.

### ■ **General Safety Information**

- Read all of the instructions and cautions in the manual before beginning the installation.
- It is **HIGHLY** recommended to install a charge controller in order to charge your batteries. It is dangerous for unregulated panels to be connected to battery banks.

### ■ **Battery Safety**

- Only use batteries compatible with the charge controller of choice. Follow charge controller manufacturer's specifications. **The battery bank must be deep cycle and connected to a charge controller.**
- Explosive battery gases may be present while charging. Be certain there is enough ventilation to release the gases.
- Be careful when working with large lead acid batteries. Wear eye protection and have fresh water available in case there is contact with the battery acid.
- Carefully read battery manuals before operation.
- Do **NOT** let the positive (+) and negative (-) terminals of the battery touch each other.
- Recycle battery when it is replaced.
- Over-charging and excessive gas precipitation may damage the battery plates and activate material shedding on them. Too high of an equalizing charge or too long of one may cause damage. Please carefully review the specific requirements of the battery used in the system.

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## General Information

The Renogy Solar Suitcases combines 2 highly efficient 50W monocrystalline solar panels. This system is specifically designed for mobile off-grid applications, where space and weight limitations are abundant. The Solar Suitcase models support 12V deep cycle battery varieties such as sealed, lead acid, gel, and flooded. With built-in tilting stands, these panels can be adjusted at different angles to maximize the power output throughout the seasons.

### Key Features

- Monocrystalline.
- Adjustable corrosion resistant aluminum stand.
- Heavy duty handle and latches for longevity.
- Convenient storage case for easy transportation.
- Expandable with other solar suitcases based on space availability.

#### NOTE

The suitcase requires an adapter kit, a charge controller, a tray cable and a battery bank to complete and off-grid system. These components require a separate purchase.

## Identification of Parts

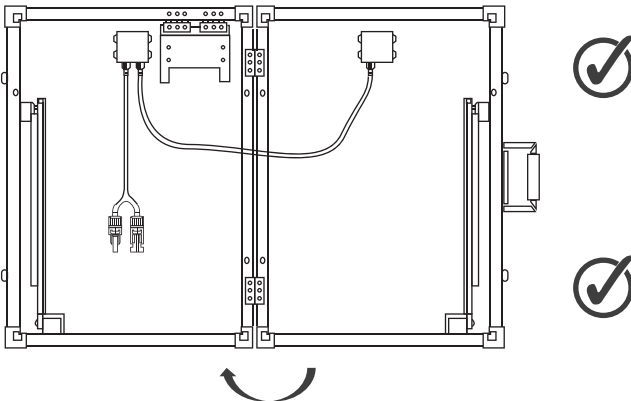


### ■ Key Parts

1. Junction Boxes    2. Tilt Stands    3. Latches    4. Handle    5. MC4 Connections

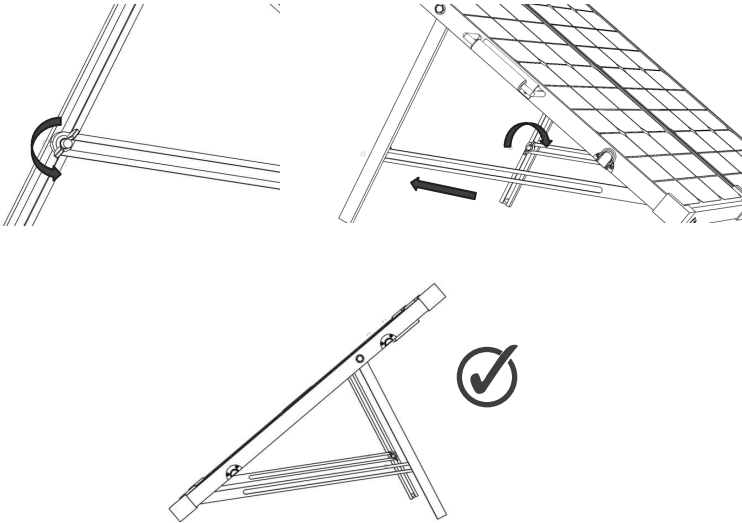
## Installation

1. Unlatch and unfold unit

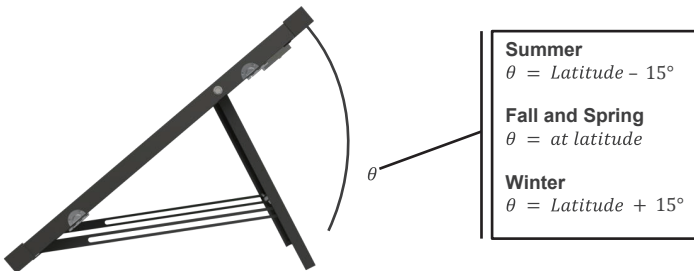


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2. Unscrew butterfly nut tilt to desired angle and lock butterfly nut



To maximize the output, adjust the angle of the suitcase regularly to track the sun's movement throughout the season



## Recommended Wiring

The 100W Solar Suitcase is shipped by itself without any additional components. In order to utilize the suitcase efficiently, it is highly recommended that users put their system together with the following components:

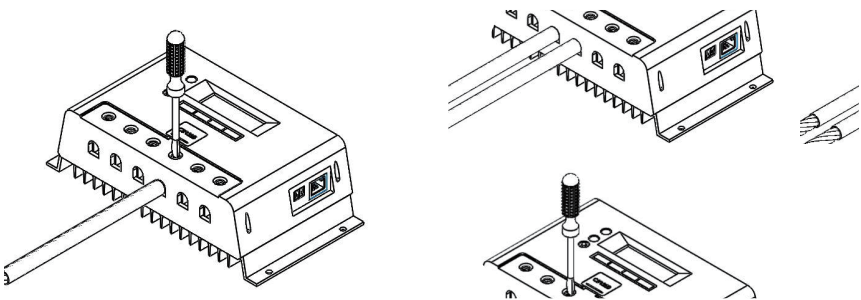
1. Adapter kit—has an MC4 connection on one end and bare wire on the other end for connecting to a charge controller.
2. Charge controller—regulates the solar panel power to efficiently charge batteries.
3. Tray cable—has a bare wire on one end and a battery “O-ring” on the other end for connecting the charge controller to the battery bank.
4. Battery bank—where power from the solar panels will be stored.

### NOTE

Depending on the system size, wire gauge, wire length, charge controller rating, and cable rating can be sized. One 100W Solar Suitcase must use electrical cables and connections rated for at least 10A electric current or as required per the charge controller and battery bank electric ratings.

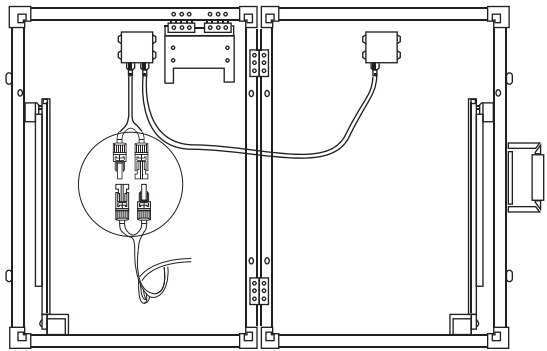
Expanding a suitcase system to add more modules must be done by a **series** electrical connection. Consult an electrician and follow proper electrical sizing for other system components.

1. Use tray cable to connect battery bank to charge controller's battery terminals

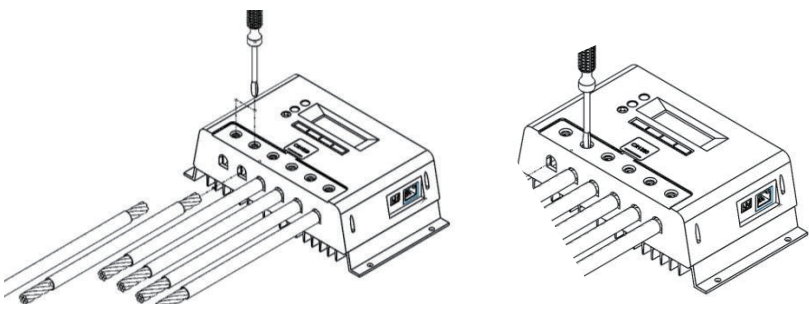


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2. Connect adapter kit to MC4 connections coming from the suitcase's junction box



3. Connect adapter kit to charge controller PV terminals





## Frequently Asked Questions

### **Q. What type of batteries can be used with this kit?**

A. Battery type compatibility depends on the charge controller specified compatible battery types. Follow charge controller manufacturer's specifications and guidelines for supported battery chemistries. Deep cycle battery types include sealed lead acid, gel, flooded, LFP 12V batteries (typically used in caravans, motorhomes, boats, etc.). This suit case can be used with a charge controller and a 12V deep cycle battery bank.

### **Q. Can this kit charge a 24V battery?**

A. No, because this kit is designed to charge a 12V battery.

**NOTE**

Note: unauthorized modification to 24V will void the warranty.

### **Q. Can the kit charge two or more 12V batteries connected in parallel?**

A. Yes, it's possible if the batteries have the same type and capacity and are wired in parallel as a single 12V battery bank.

### **Q. Is there any risk that the solar kit will overcharge my battery?**

A. One of the functions of the solar charge controller is to ensure that your battery is not overcharged; therefore there is no risk of overcharge.

### **Q. Can I extend the battery leads?**

A. Yes, it's possible – please choose the same size of cable for extension. However, the longer the extension, the greater the line loss. A bigger gauge will be required for longer runs.

### **Q. Do I need to clean the solar panels?**

A. Yes, it is recommended to clean glass surface for better performance. Dust and dirt should first be swept off the panel surface using a soft brush. When the sweeping is complete, use a wet cloth to wipe the panel surface to remove the remaining dirt and grime.

### **Q. Can rain damage the solar kit?**

A. The solar panels are fully waterproof (IP66 class), the controller is not. We recommend protecting the kit from rain, since water into the controller may damage the internal circuitry.

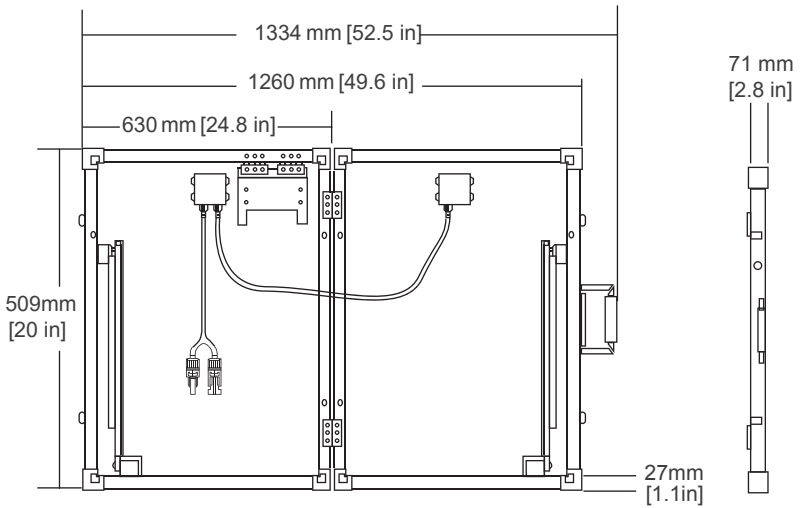
## Technical Specifications

### Solar Panel Parameters




Description	100W Parameters
Maximum Power	100 W
Open Circuit Voltage (Voc)	24.3 V
Short Circuit Current (Isc)	2 x 2.73 A
Maximum Power Voltage (Vmp)	20.3 V
Maximum Power Current (Imp)	2 x 2.47 A
Cell Type	Monocrystalline
Operating Temperature	-40°F to +185°F
Folded Size	24.8 x 20 x 2.8 in
Net Weight	20.5 lb

# Dimensions

## ■ 100W Suitcase



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

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