



## 600 Watt MPPT Off-Grid Charging Kit (GS-600-KIT-MPPT)

### Quick Connect Guide

**IMPORTANT:** Please read GS-MPPT-Zenith-40 charge controller owner's manual and GS-STAR-200W Connection Guide (included with products) before assembling kit.

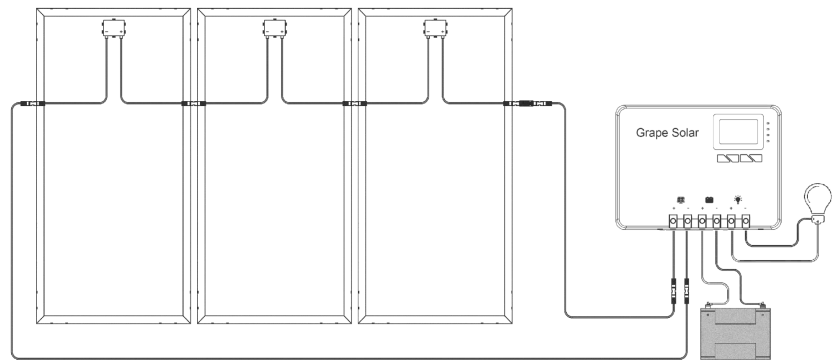
For additional information about Grape Solar products:  
email [Support@GrapeSolar.com](mailto:Support@GrapeSolar.com), or

To estimate how much average monthly power this system should produce in your area, please use the **PV Watts Calculator** found at:

<https://pvwatts.nrel.gov/>

This System Size= 0.60 kW DC

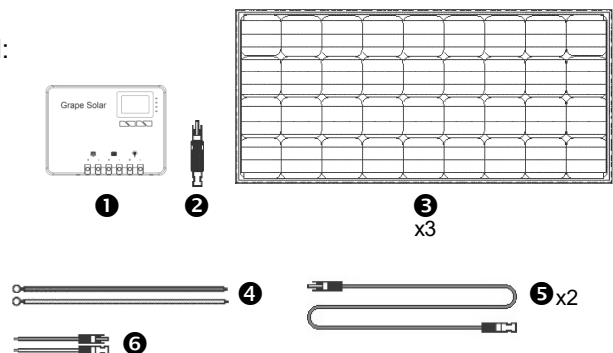
*(also applicable in selected global regions)*



[The Quick Connect Guide diagrams are not to scale.]

## 1 Check your order to make sure that all parts are included:

- ❶ GS-MPPT-Zenith-40 Charge Controller
- ❷ 20-Amp MC4 In-Line Fuse
- ❸ 3x GS- STAR-200W Solar Panel
- ❹ 5-ft. Red/Black 10 AWG Cable Pair
- ❺ 2x 15-ft. MC4 Cable
- ❻ 6-in. Red/Black MC4-to-Bare Wire Pair



Additional tools and equipment you will need:

- Screwdriver– Philips Head
- 12-Volt Deep-Cycle Battery Bank
- Voltmeter (for Troubleshooting)

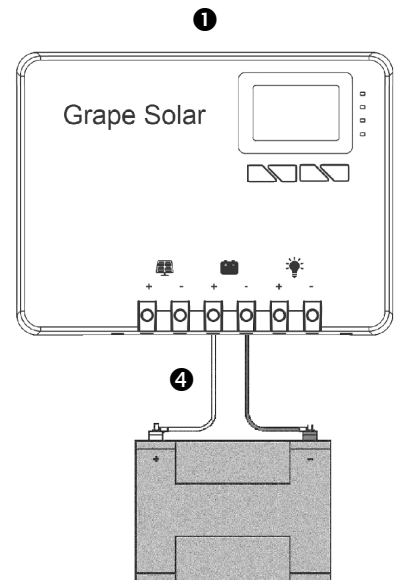


**2** Mount the solar panels **3** so that they are facing due South at approximately the same angle as your latitude. The ideal area has full sun and no shading. If the following connections are made during daylight, cover the panels with cardboard, cloth, or a similar opaque material so that the panel does not output power.

**3** Connect the bare wire end of the 10 AWG (thinner) red battery cable **4** to the (+) battery terminal on the bottom of the charge controller **1**. Connect the bare wire end of the 10 AWG (thinner) black cable **4** to the (-) battery terminal. A Phillips head screwdriver can be used to loosen and tighten the screw clamps onto the wires.

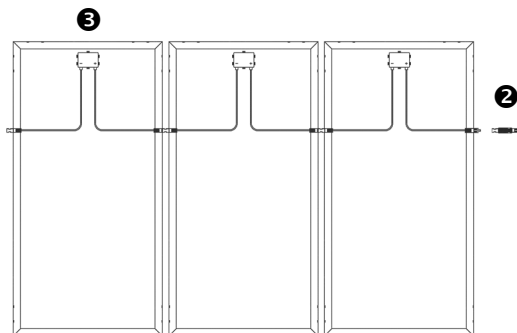
Attach the ring lug end of the red cable **4** to the positive terminal of a 12V deep cycle battery. Attach the ring lug end of the black cable **4** to the negative terminal of the battery.

The charge controller **1** display screen will be visible if the battery has sufficient charge. If the display screen is not visible, the battery must be charged from an another source before processing solar power. The charge controller, which regulates solar power flow to the battery, is powered by the battery.

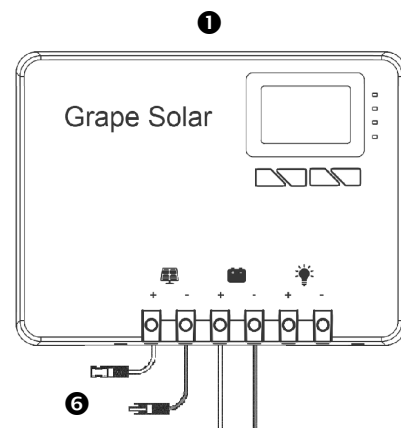


\*12V deep cycle battery is not included with kit

**4** Connect the solar panels **3** together into a three-panel series “string”. Series connections are made when the positive cable from one panel is connected to the negative cable from the next panel. On the open positive end of the triad, connect a 20-amp in-line fuse **2**.

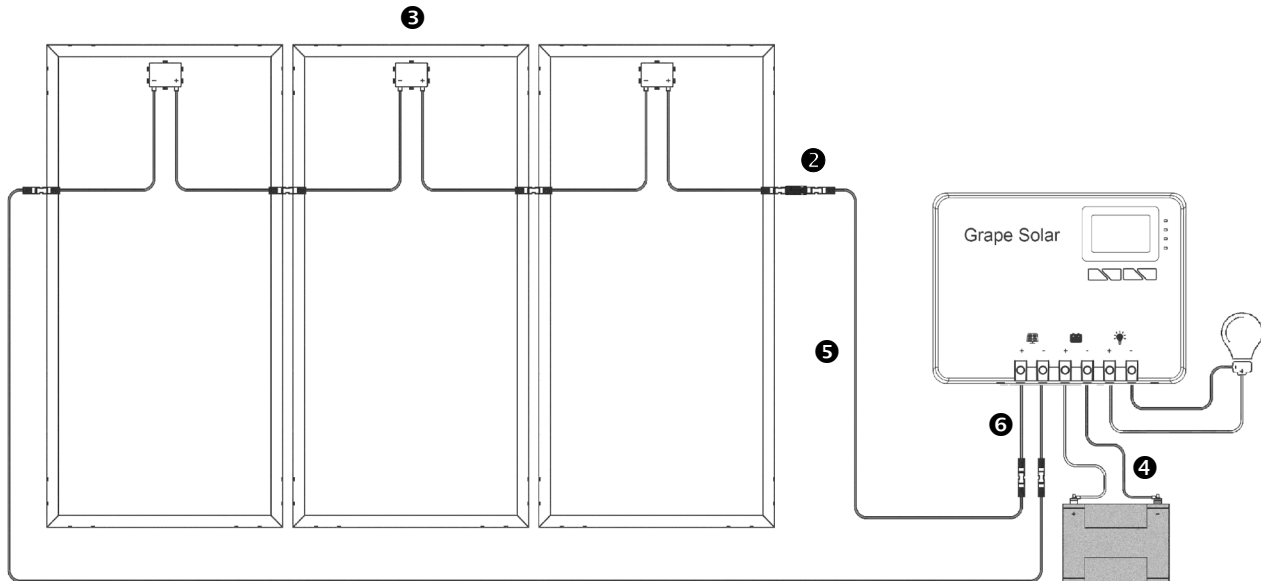


**5** Attach the bare-wire ends of the MC4-to-Bare Wire pair **6** to the charge controller **1**. The red wire connects to the (+) input and the black wire connects to the (-) input.





- 6** Use the 15-ft MC4 cables **5** to connect the solar panel **3** triad to a Zenith-40 charge controller **1**. Ensure that the positive and negative cable from the solar panel triad are connected to respective input sockets on the controller. If the batteries are not full, you should begin to see power flowing into the batteries.



**DISCLAIMER:**

Installations of this kit could be subject to national and local building and electrical codes. Installers should have adequate knowledge of national and local code to ensure the installation passes inspection by the local electric authority.

Proper fuses or breakers should be used to comply with all local and national codes. Contact Grape Solar for specific recommendations.

All batteries used for this system should be identical. Do not mix battery types or sizes. Do not mix old batteries with new batteries. Performance and charging anomalies can occur if types, sizes, or age of batteries are not identical.

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