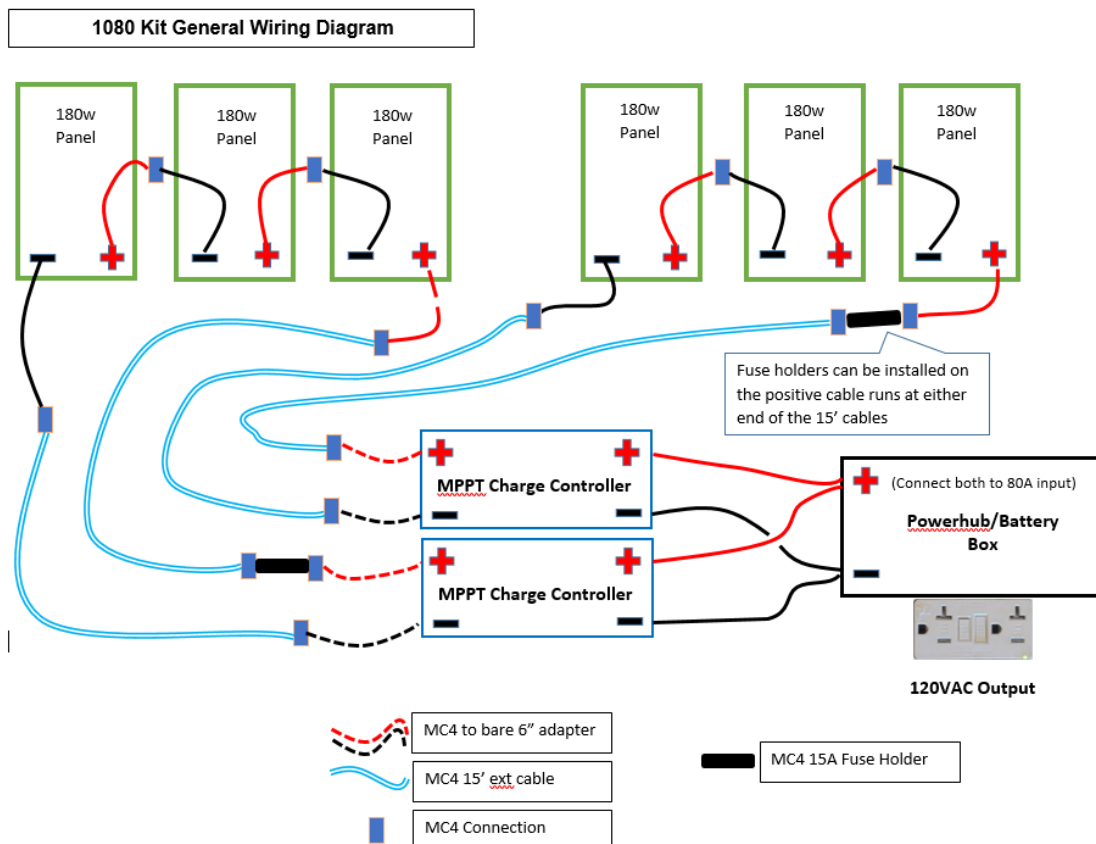# Grape Solar 1080-Watt Off-Grid Kit

(GS-1080-KIT-PH)

Quick Connect Guide

IMPORTANT: Please read the PowerHub Installation Guide (included with the PowerHub), the ZENITH-40 Owner Manual, and the Panel User Guide (included with panels) before assembling this kit. Do not change the System Voltage setting on the ZENITH controllers, it must be 12 volts DC.

Basic Wiring Diagram

1080 Kit General Wiring Diagram

For additional information or questions about this kit,

email support@grapesolar.com and see www.grapesolar.com/manuals.html

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QuickStart Setup

Step 1: Check your order to make sure that all parts are included. For the 1080 kit, this is six 180 watt panels, four 15-foot MC4-type-to-MC4-type cables, two 15 amp inline fuses, two 6-inch MC4-type-to-bare red/black wire pairs, two GS-MPPT-ZENITH-40 charge controllers, two 5-foot 10 awg bare-to-bare cables (to connect controllers to the Powerhub 80 amp input), the PowerHub, and the two battery boxes. Not supplied: mounting and racking for the panels.

x2

Step 2: For optimum output, place the panels so they are facing due south at approximately the same angle as your latitude, in full sun. If you are connecting the system during daylight, cover the panel with cardboard, cloth, or a similar option so that it does not output power.

Step 3: Divide the panels into sets of three. Connect them into series strings as shown below. This will leave one positive output and one negative output on each group of three.

Step 3: Connect a 15A inline fuse to the positive output of each panel string, as shown below (the fuses can also be added at the end of the positive 15-foot MC4 lead, before the 6" red/black cables are added).
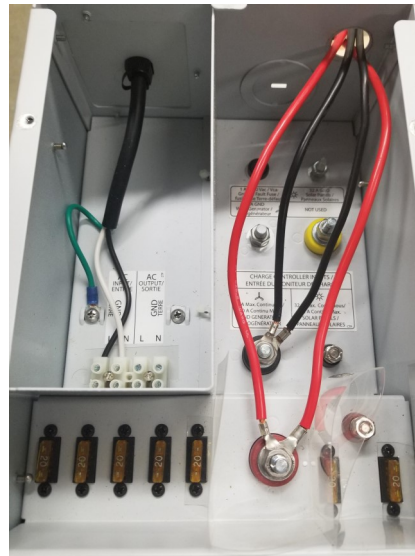

Step 4: Connect the 15-foot cables to the outputs of your panel strings, so that you have four outputs total (two positive, two negative). Attach the 6-inch red/black pairs to the output ends of the four 15-foot cables (see single-pair example below).

QuickStart Setup

Step 5: Install the batteries in the PowerHub battery box, as per the manual. Connect the "Battery" terminals of both ZENITH controllers (see above) to the 80 amp Wind inputs on the PowerHub using the 10 awg cable (see below). Do not use the 32 amp solar input, it is not sufficient for the output of both controllers. Refer to the ZENITH and PowerHub manuals for more details. In general, keep the ZENITH controllers at the factory settings. NOTE: do not change the voltage settings, they must be set to 12 volts DC.

Step 6: Connect the two sets of positive and negative wire ends from the 6-inch cables to the "Solar Input" terminals of the two ZENITH controllers as shown below.

Step 7: Turn on the PowerHub as per the Installation Guide. Uncover the panels. As the day progresses, you should see the battery charge increase, until the charge controller is in float mode. At this point the system can be used to provide power. Although the system can be used with partial battery charge, we recommend allowing the batteries to fully charge before initial use.