



Grape Solar 540-Watt Off-Grid Kit **(GS-540-KIT-BT)** **Installation Guide**

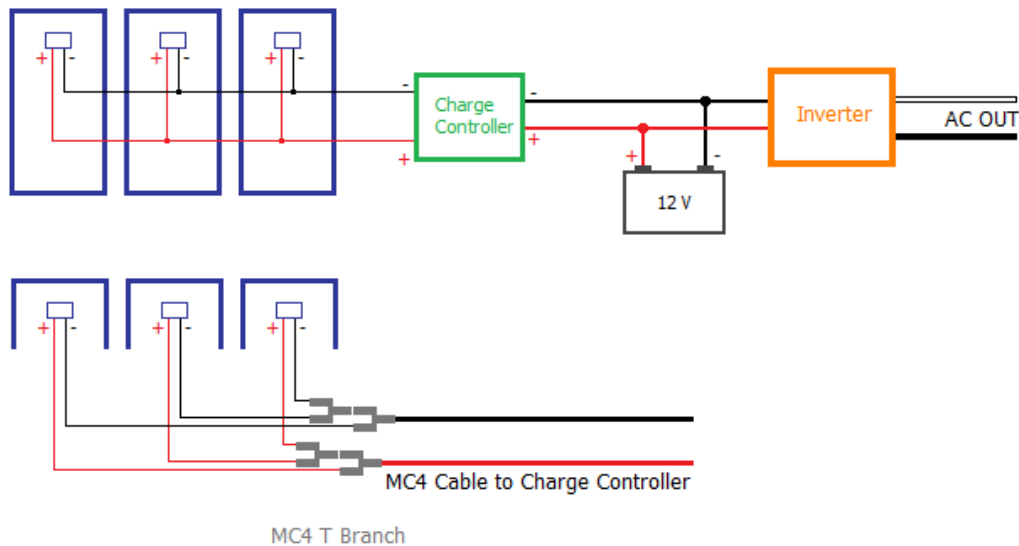
For Additional Information

Visit www.grapesolar.com/manuals.html

Or Email ino@grapesolar.com

©Copyright 2017, Grape Solar, Inc. All Rights Reserved

Basic Wiring Diagram



Quick Start Setup

Step 1: Verify that you have each kit component, and that your shipment is complete. Check for the following items.

- 3 180-watt solar panels
- 2 pairs of male/female solar connector branch connectors joined together
- a pair of 15ft solar connector extension cables(10AWG)
- a red/black 6" solar-connector-to-bare cable pair (10AWG)
- a 5-foot red/black bare-wire-to-ring-lug cable pair (charge-controller-to-battery 10AWG)
- a 5-foot red/black cable pair (battery-to-inverter 4AWG)
- a Xantrex SW2000 inverter
- 3 sets of Grape Solar Zippity-Feet mounting brackets



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. Place the panel so it is facing due south at approximately the same angle as your latitude, in full sun.



If your battery has sufficient charge (11.5 volts or more), you should see the LCD display activate on the 40BT. This means the controller has power (controllers are powered by the battery, not the panels).

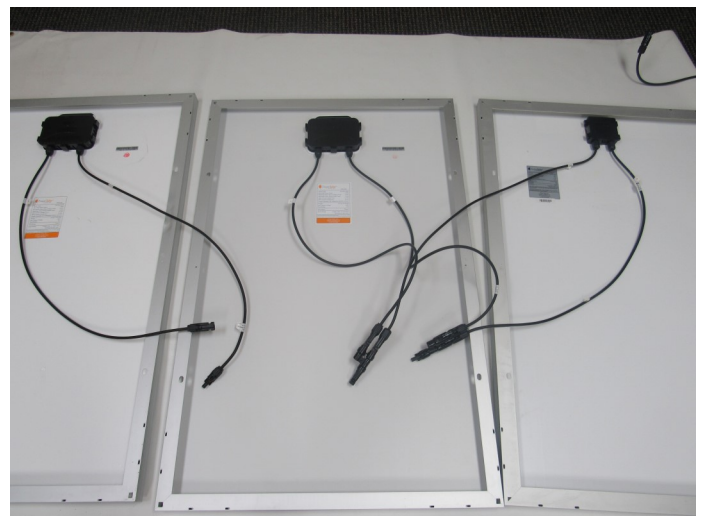


Step 3: Mount the 40BT controller if desired (note that it must be in a NEMA-4 rated enclosure if it is outdoors). Open up the input/output terminals by turning the top screws

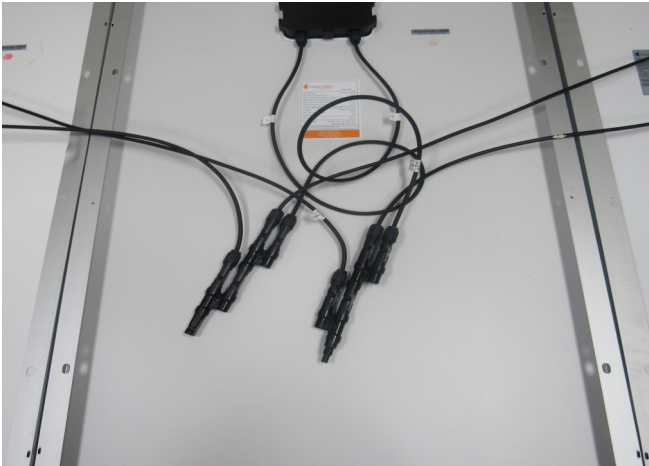
Step 4: Attach the lug end of the red cable to the positive terminal on the battery and the bare end to the Battery + input on the charge controller. Attach the lug end of the black cable to the negative terminal on the battery and the bare end to the Battery - input on the charge controller.



Step 5: Connect the positive and negative outputs of the panel to the appropriate T-branch connectors, as seen below. Panels 2 and 3 connect to the 1st pair, and the outputs of that 1st pair along with Panel 1's outputs connect to the second pair.

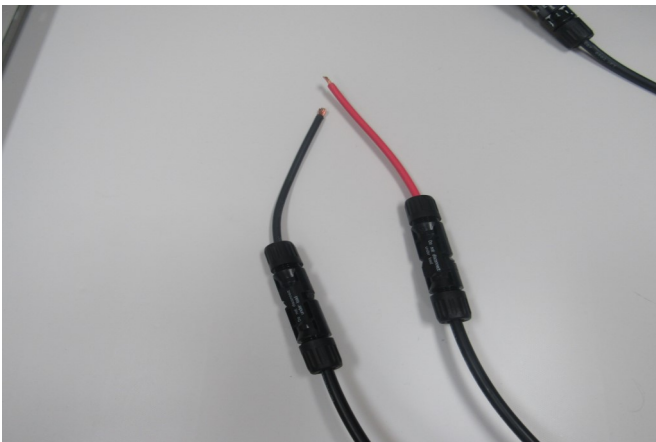


Step 5: Continued from last page.



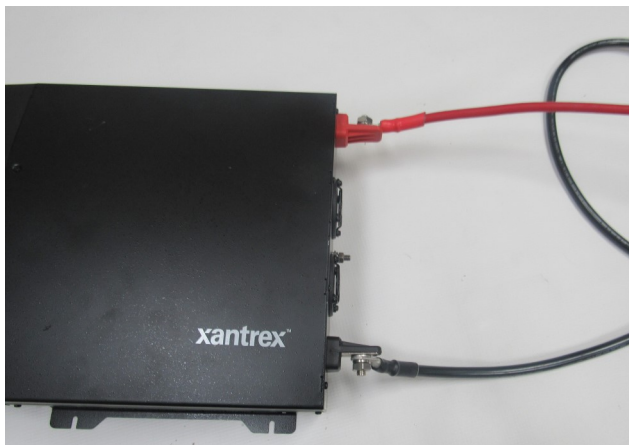
3-panel T-branch connection

Step 7: Then connect the solar connector outputs of the 15-foot cables to the 6" solar connector-to-bare wire pair as shown below:

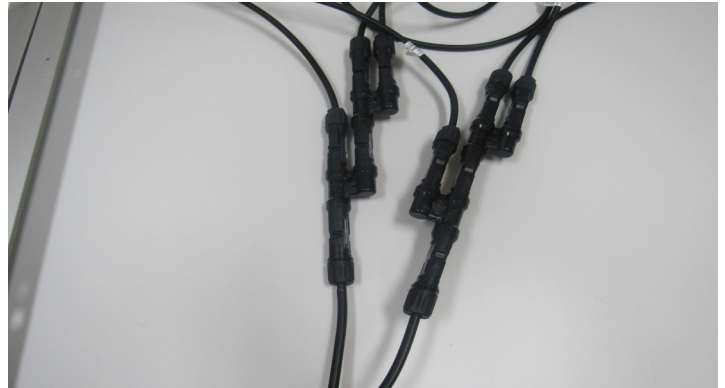


MC4 to bare connection

Step 9: Connect the red (positive) and black (negative) 5-foot cable from battery to inverter



Step 6: Connect the solar connector outputs of the T-branch connectors to the solar connector on 15-foot extension cables.



Step 8: Connect the bare wire end of the red cable to the "PV Positive" input of the 40BT, and the black cable end to the "PV Negative" input .



Step 10: Uncover the panels. As the day progresses, you should see the battery capacity percentage increase until the charge controller is in float mode. At this point the battery can be used to provide power (turn the inverter on and plug your AC devices into it for power).