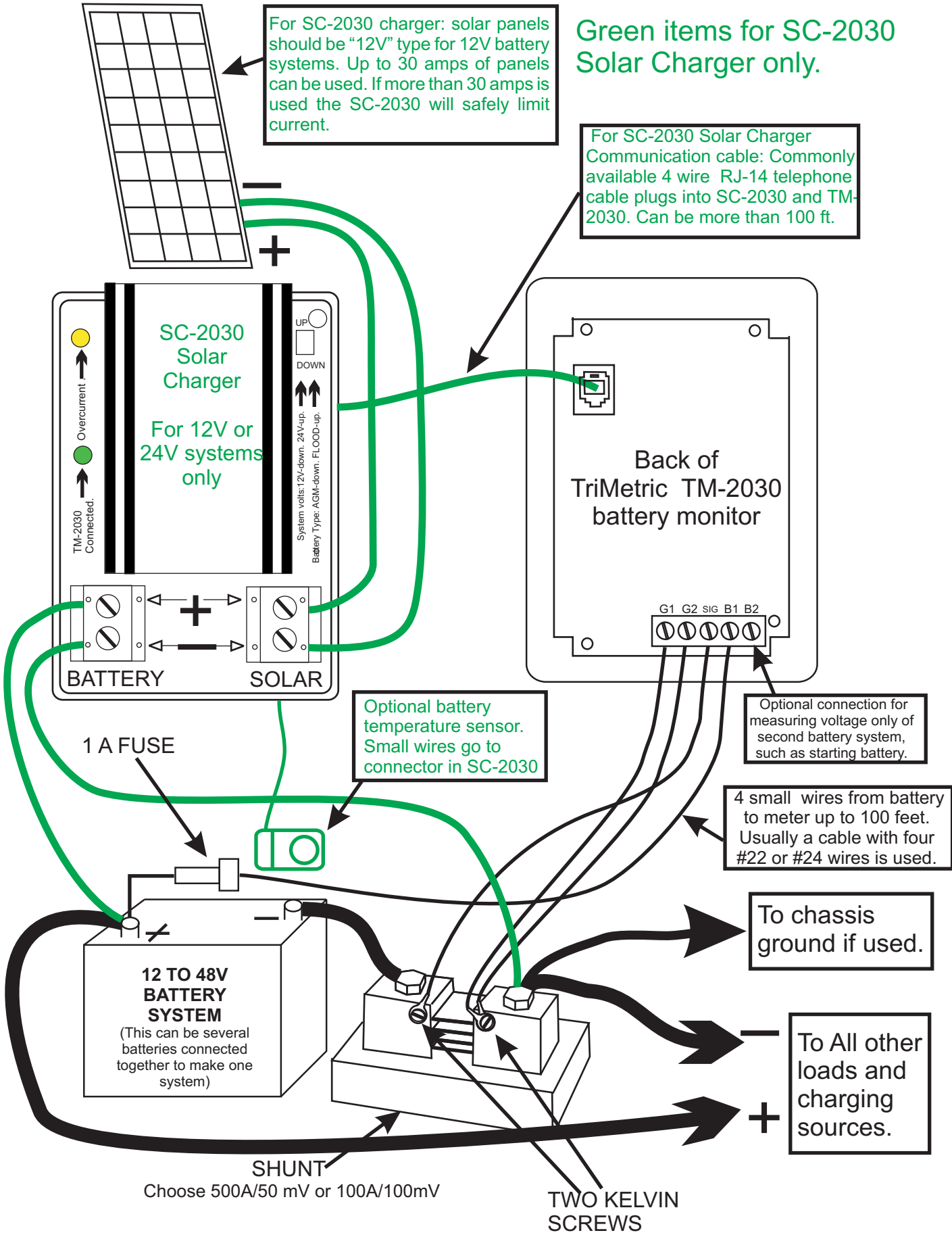


Green items for SC-2030 Solar Charger only.

For SC-2030 charger: solar panels should be "12V" type for 12V battery systems. Up to 30 amps of panels can be used. If more than 30 amps is used the SC-2030 will safely limit current.

For SC-2030 Solar Charger Communication cable: Commonly available 4 wire RJ-14 telephone cable plugs into SC-2030 and TM-2030. Can be more than 100 ft.



Optional battery temperature sensor. Small wires go to connector in SC-2030

Optional connection for measuring voltage only of second battery system, such as starting battery.

4 small wires from battery to meter up to 100 feet. Usually a cable with four #22 or #24 wires is used.

To chassis ground if used.

To All other loads and charging sources.

Simplified description for installing Bogart Engineering SC-2030 charger and TM-2030 Battery Monitor. Illustration on previous page.

WHAT'S INVOLVED IN INSTALLING THE BOGART ENGINEERING TM-2030 monitor:

This is a brief description. See TM-2030 Installer's instructions for complete description

Additional parts you will need: ●Shunt. ●4 wire cable from battery to meter. ●Short, large cable to go from shunt to battery.

Mounting the Meter: The TM-2030 is usually installed in the living area. Depending on how you want to mount it, two styles of TM-2030 are available which perform identically. The label colors are also different. See the "bogartengineering.com" website: go to "Products", "TriMetric" for photos and further description.

The TM-2030-RV is most popular, and easiest to mount on a wall using two screws. When mounted on a wall it is 5 inches high and 3 inches wide and extends from the wall 1 inch.

The TM-2030-A is easier to mount flush on a wall if this is desired. It has a panel that is 4-1/4 by 4-3/4 inches, and extends 1 inch deep. It is designed to fit into a double gang electrical box of sufficient size, or it can be fastened to a wall with four screws onto a square hole of sufficient size. The panel color is different from the TM-2030-RV.

Installing the shunt: The shunt is not included with the meter, and must also be purchased with the meter for about \$30. There are two possible choices for shunt, depending on your system size. To decide on which one, look on the Bogart Engineering web site under "Frequently Answered Questions" in the "shunt" section. This enables the TM-2030 to measure the battery current. Size: 1-3/4 x3-1/4 x 2 in high. It is located near the batteries and connects to the TM-2030 with 4 small wires, usually in a plastic jacket.

First remove all connections presently connected to the battery system negative pole.

Connect one end of the shunt to the now bare negative pole of the battery system with a short cable large enough to accommodate the largest current you will have when charging or discharging your batteries

Wires and cables previously connected to the battery negative pole must then be reconnected to the "load" side of the shunt.

Connect four wires from shunt and battery to Meter: Cable consisting of small wires (#22 up to 100 feet long) need to connect from the TriMetric to the shunt and batteries.

WHAT'S INVOLVED IN INSTALLING THE BOGART ENGINEERING SC-2030 Solar Charger: Brief description. Complete description is in the SC-2030 User's Manual

Additional parts you will need: ●Obviously solar panel(s). ●Two wires from panels to charger and 2 wires from charger to batteries. ●Telephone cable (4 wire, RJ-14) for communication from SC-2030 to TM-2030. ●Optional temperature sensor.

The SC-2030 charger is usually located near the batteries, but may be located anywhere between panels and batteries when being controlled by the TM-2030 since it is monitoring the exact battery voltage and can compensate for some voltage drop in the wires.

Usually the solar panels will be installed first. For good efficiency with 12 volt battery set, when used with a PWM type controller, these must be so called "12 volt" panels. These are ones that have a maximum power voltage (Vpp) of about 17 or 18 volts. Two wires of sufficient size must be run that will carry the current from the panels to the batteries. A wire table in the SC-2030 instructions tells proper wire size depending on maximum solar amps and the wire distance from panels to battery.

Install the temperature sensor: For batteries that are not usually at nearly 25° C (77° F), a temperature sensor is advisable for temperature compensation of the voltage. It should be located in a place in the battery compartment that is at the temperature of the batteries. It connects to the SC-2030 Solar Charger at the back of the circuit board. A hole must be drilled in the enclosure at a convenient place in the box to accommodate the small wire.

Install communication wires from SC-2030 charger to TM-2030 Monitor: This is a 4 wire common telephone cable between the TM-2030 and SC-2030. This allows control commands from the TM-2030 and Solar data from the SC-2030. One end plugs into each device. A hole must be drilled in the TM-2030 and SC-2030 cases at suitable location for your situation to accommodate the wire.

file: Brief Installation Description