

# Bogart Engineering

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## Preliminary document. Using the TM-2030 to control two SC-2030 Solar chargers to control up to 62 amps from solar panels in a 12 or 24V battery system.

This hasn't been tried extensively yet, but I can't see any reason why it should not work. We suggest contacting us if you plan to do this. Any feedback or questions you have about problems (or otherwise) would be welcome, including improvements to this document.

You can't just parallel the solar inputs of the SC-2030 and connect 60 amps from panels, because the current won't properly divide between the two. Therefore when using two SC-2030's the solar panels should be separated into two roughly equal groups, with a separate pair of wires from each going to the inputs of two separate SC-2030's. However the outputs from each SC-2030 to the batteries can be paralleled in the obvious way: + to + and minus to minus.

One minor problem with this method is that the "SOL" display in the TM-2030 that reads the solar input amps can only read one of the two SC-2030's. You will need to choose which one you want to be able to monitor. This ONLY refers to the input current, the solar net current to the batteries will of course be measured properly by the TM-2030 to provide the proper charge regulation. The one that will NOT be measured is the one that has the cut wire in the communication cable (shown below.). Of course you could occasionally exchange the cables to look at whichever group you want if you want to occasionally see that the panels are producing what is expected. Or possibly even have a switch to do this. **Also, the temperature sensor should go to the SC-2030 that does not have the cut wire cable.**

1. Get a 3 way phone adapter connector--typically it will have 3 (or more) female connectors and one male connection. You will only need three of the female connectors on this.

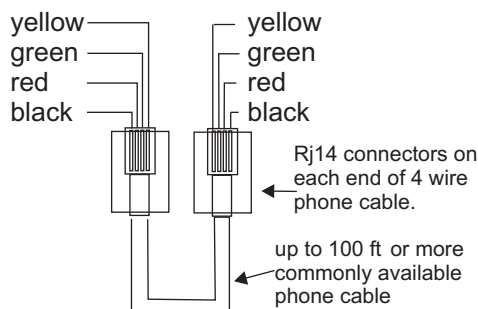
Then you need to make three 4-wire phone cables with connectors attached as follows: Because these cables are usually manufactured "crossed", the non crossed ones will need to be made using a phone connector crimping tool and a commonly available phone connector. You could buy a crossed cable and cut it to make two non crossed connectors by adding connectors as shown.

1. ONE "Crossed" connector cable goes from the TM-2030 to the 3 way phone connector.

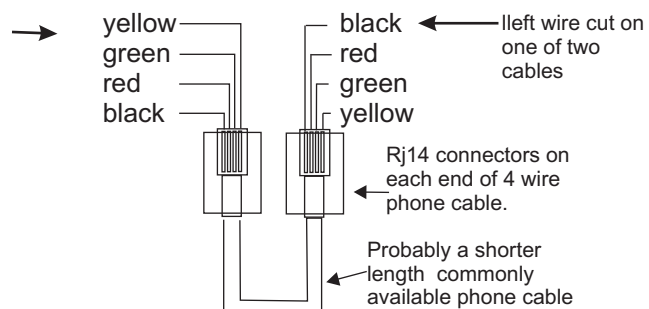
2. Make ONE Non crossed connector cable with all four wires shown in right illustration using standard phone end connectors and phone cord crimping tool. This goes from one SC-2030 to the 3 way phone adapter. This should be the SC-2030 that has the temperature sensor connected (if using temp compensation.)

3. Make ANOTHER Non crossed connector cable with one wire cut as described in right illustration. This goes from the other SC-2030 to the 3 way phone adapter. This will be the SC-2030 for which SOL amps will not be shown in the TriMetric TM-2030.

4. When you get everything connected and solar energy is available for the panels, the green light on BOTH SC-2030's should be most of the time "on" with occasionally some short flashes off, indicating communication with the TM-2030. If either is most of the time "off" then communication cables to that unit should be checked.



**Crossed** cable from  
TM-2030 to 3 way phone adaptor  
connector.



**Non crossed** These show a view facing the side of  
the connectors that does NOT have the plastic retainer clip.

ONE cable should be made with all 4 wires.

ANOTHER should be made the LEFT wire cut off in either connector.  
(shown as "black" in this illustration--but could be another color))

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