

# REC Q Series and SMA Sunny Island Communication Setup Guide

## Summary

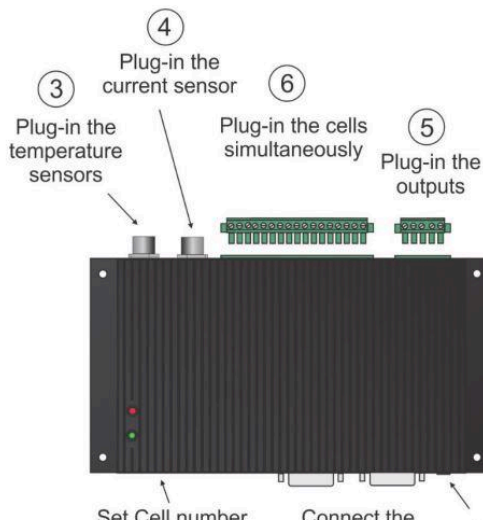
1. Physical Connections:
2. SMA Sunny Island Firmware Update:
3. REC BIN File Update:
4. SMA Startup and Quick Config. Guide:
5. Additional Resources:



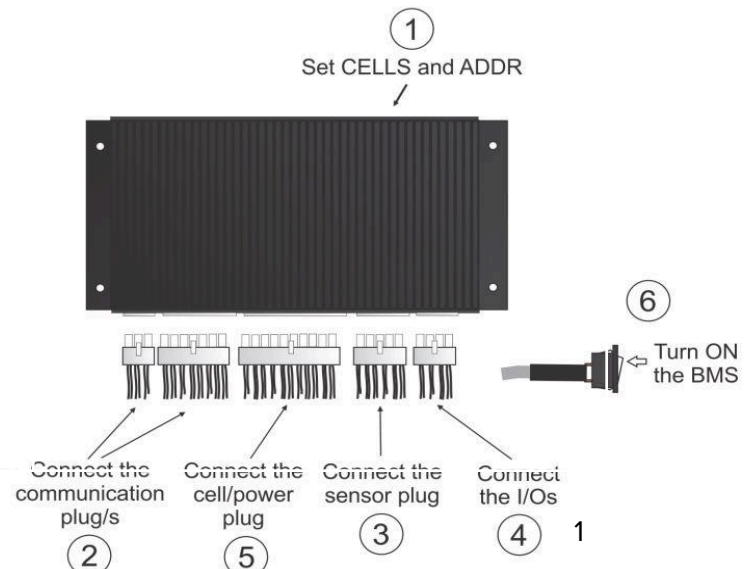
## 1. Physical Connections:

Follow the [REC BMS instructions](#) on installation of the BMS. Use the provided CAN communication cable to connect to Sunny Island “Comm Sync In” Port. If you are making your own cable see pinouts below. Ensure to adhere to the connection sequence pictured below.

### 1Q Series Connection Sequence



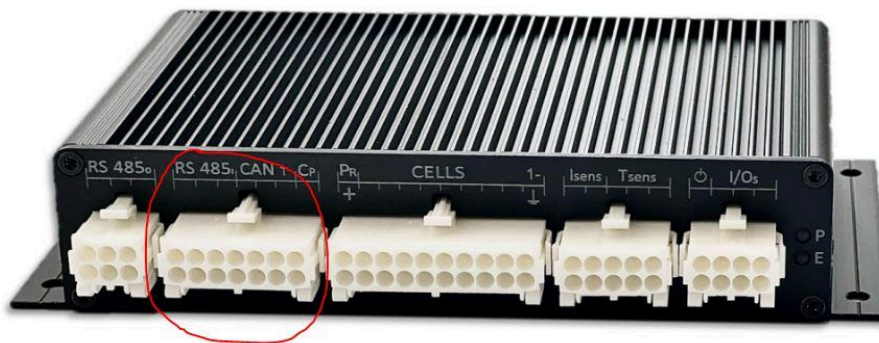
### 2Q Series Connection Sequence



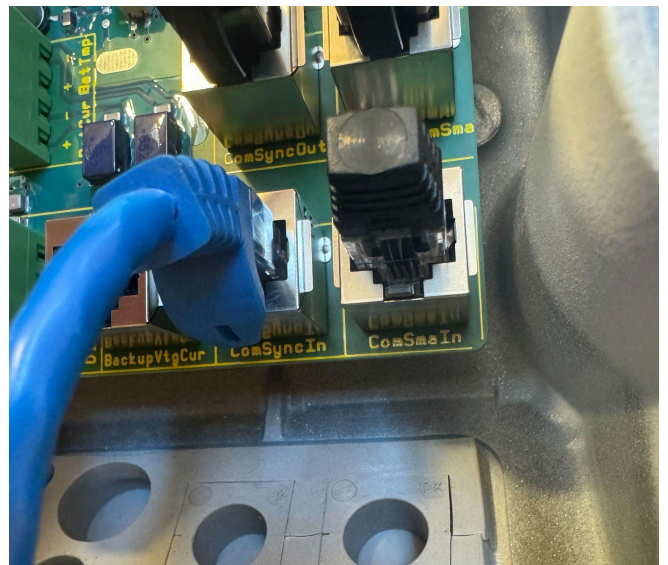
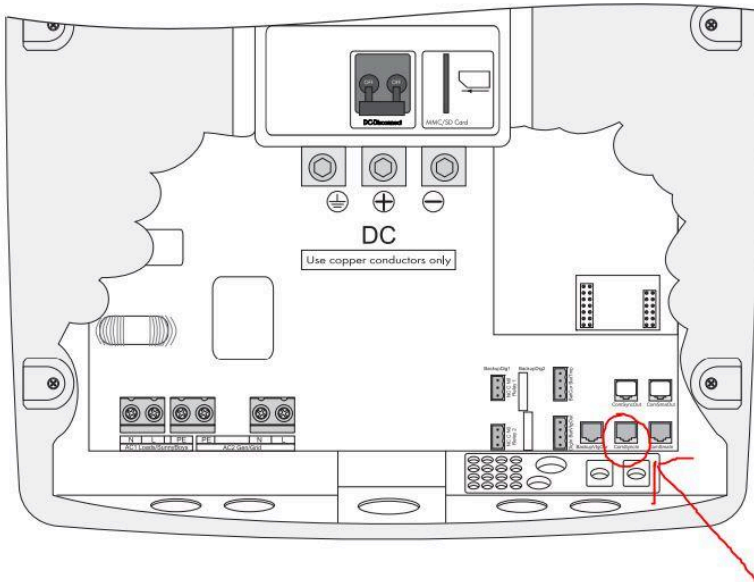
### REC 1Q Series CAN Port Location



### REC 2Q Series CAN Port Location



### SMA Sunny Island “Comm Sync In” Location

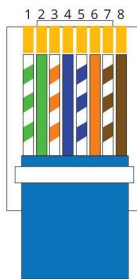
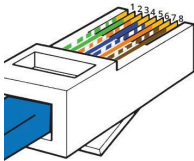


## Pin Out Diagrams (Only needed if making your own cable):

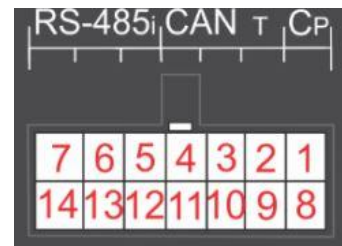
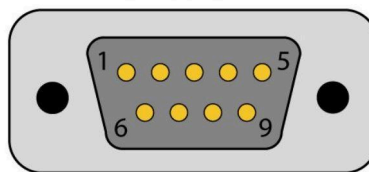
Note: When making your own cable, the communication bus must be terminated with a 120 ohm resistor in the Sunny Island port “Com Sync Out.” SMA provides these resistors and they look like black plastic plugs with a RJ45 connector on the end.

|                   |                   |                          |
|-------------------|-------------------|--------------------------|
| Sunny Island RJ45 | REC 1Q Series DB9 | REC 2Q Series Mate-N-LOK |
|-------------------|-------------------|--------------------------|

**RJ45 Pinout**  
T-568A



**DB9M Connector**



| Pin | Designator | Pin | Designator | Pin | Designator |
|-----|------------|-----|------------|-----|------------|
| 1   |            | 1   |            | 1   |            |
| 2   | Ground     | 2   | CAN Low    | 2   |            |
| 3   |            | 3   | Ground     | 3   | CAN Low    |
| 4   | CAN High   | 4   |            | 4   |            |
| 5   | CAN Low    | 5   |            | 5   |            |
| 6   |            | 6   |            | 6   |            |
| 7   |            | 7   | CAN High   | 7   |            |
| 8   |            | 8   |            | 8   |            |
|     |            | 9   |            | 9   |            |
|     |            |     |            | 10  | CAN High   |
|     |            |     |            | 11  | Ground     |



## 2. SMA Sunny Island Firmware Update:

Detailed instructions can be found in chapter 11 (page 100) of the [Sunny Island manual](#).

I. Put the Sunny Island into standby mode by pressing and holding the escape button. Turn off the DC breaker. Remove the SD card from the Sunny Island.

II. Download the latest firmware for the Sunny Island. As of this writing 5/6/2024 that firmware is 7.304. The firmware can be found on SMA's website in the [download section](#). Search for 7.304 on the website.

III. Upload the latest firmware onto the SD card and reinsert SD card into the Sunny Island. The update will take place automatically and take about 5 minutes. Do not interrupt the update.



### 3. REC Bin File Update:

See [REC BMS Manuals](#) for more details

#### I. Update process for 1Q series

- Obtain the Bin file from OGM customer service.
- Using the Wifi Module, navigate to the firmware tab and use the update function to browse and select the file

#### II. CAN protocol selection process for the 2Q series

- Refer to manual for additional information
- Using the Wifi Module, navigate to the firmware tab and use the communication function adjust the CHRG and CANS settings to the parameters found in the manual

**Table 11:** CHRG and CANS instruction selection list.

| ESS/CHARGER          | CHRG SETTING | CANS SETTING                              | DESCRIPTION                                |
|----------------------|--------------|-------------------------------------------|--------------------------------------------|
| REC BMS CAN protocol | 0            | Select desired bit-rate from the table 11 | 250kb 11-bit ID default CFVC =0;           |
| Victron              | 1            | 2 or 3                                    | 250kb or 500kb @ 11-bit ID; 500kb default, |
| SMA                  | 2            | 3                                         | 500kb @ 11-bit ID CFVC =0;                 |

### 4. SMA Sunny Island Quick Configuration Guide

Detailed instructions can be found in chapter 8 (page 69) of the [Sunny Island manual](#).

- This process must be started with the Sunny Islands off and the DC breaker in the down position.
- Switch the DC breaker to the on position and the Sunny Island begins its start-up phase.
- When promoted to “init system” hold the enter button for three seconds to begin the quick configuration guide.



- IV. When prompted to create a new system click Yes
- V. Setup parameters of the Sunny Island for your system. For battery type on parameter #11, ensure you select "Lilon\_Ext-BMS." If "Lilon\_Ext-BMS" is not present, confirm that REC BMS has the latest Bin file/correct CAN protocol selected and that Sunny Islands are operating on the latest firmware.



- VI. Complete the quick configuration guide and enter the system. As the display screen scrolls the Sunny Island will show "LiIon-Ext-BMS " as the charging protocol selected.



## 5. Additional Resources

[SMA Downloads](#)

[REC BMS Sample Sketches and Downloads](#)