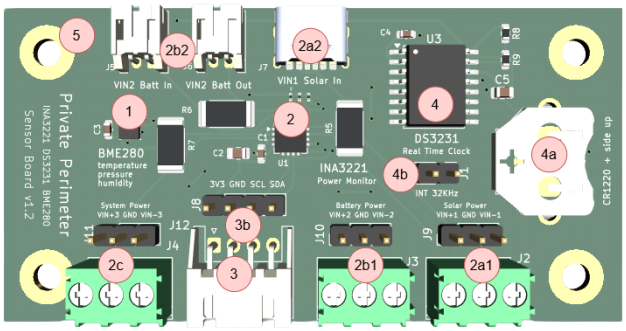
Sensor Board TB Installation Notes

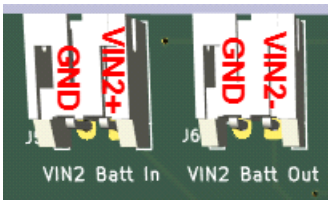
This board assumes that your system has some kind of Battery Management System (BMS), or at a minimum a battery holder and a solar panel.



1. Decide how you are going to talk from your processor I2C interface to the Sensor Module.
    a. Via the JST XH connector (3) (requires a JST XH pigtail which you can easily make using a kit from Amazon, or purchase from our store.
    b. Via the Dupont pins (3b) (requires Dupont jumper wires or a 4-wire Dupont connector, readily available from most electronic stores or Amazon)

2. Decide how you are going to intercept the Solar Panel to measure the power. This assumes you are using the first channel (VIN+1, VIN-1) but you can swap any of the channels around to match your needs.
    a. Input from the Solar Panel
        - If your solar panel has a USB-C connection, just plug it into the provided USB-C connector (2a2).
        - Alternately, you can connect bare wires to the terminal block (2a1) at VIN+1 and GND.
    b. Output to your BMS
        - Connect bare wires from VIN-1 and GND to your BMS

3. Decide how you are going to intercept the Batteries to measure the power. This assumes you are using the second channel (VIN+2, VIN-2) but you can swap any of the channels around to match your needs.



    a. Input from the Batteries
        - If your battery holder has a JST PH 2.0 connection which is very common in this industry for 18650s, just plug it into the provided JST PH 2.0 connector (2b2). We have tried to select the most common polarity, but there is a chance it is backwards, so follow the above diagram to make sure.
        - Alternately, you can connect bare wires to the terminal block (2b1) at VIN+2 and GND.
    b. Output to your BMS
        - If your BMS has a JST PH 2.0 connection, you can connect a JST PH 2.0 pigtail from the Batt Out to the BMS. It is very difficult to ensure that the JST pigtail has the correct color wires, so you may need to reverse them.
        - Alternately, connect bare wires from VIN-2 and GND to your BMS.

4. Decide if you are going to use the third channel for overall system power monitoring. If so, intercept the power going from the BMS to your processor and run it through the terminal block or Dupont pins (2c).

5. Add a CR1220 battery to the battery holder (4a) positive side up. We would have supplied it but then shipping a lithium battery becomes difficult. You can buy them from Amazon and sometimes Walmart at the battery rack. This gives you up to 10 years of clock backup assuming your batteries have power most of the time. We also brought out the RTC interrupt and 32KHz signals (4b) to Dupont pins if you want to add code to use them for an alarm which the DS3231 supports.

6. Use M3 machine screws to mount this board as you see fit (5).