Quick Start for the QSSI Automatic Weather Station

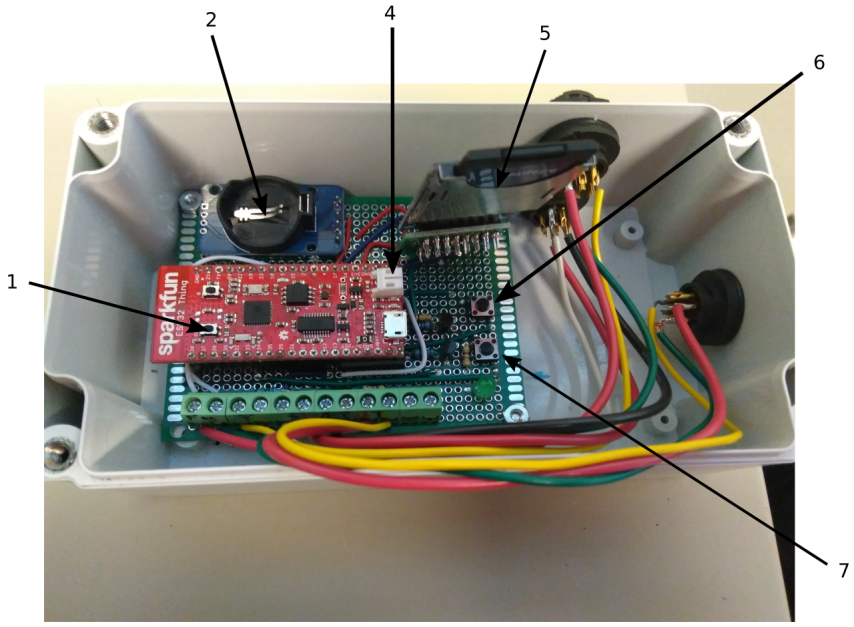
University of Montana

1 Getting Started

1. Plug in the ESP32 using a USB adapter into your computer. A blue light should light up on the device.
2. Open up your favorite editor and upload main.cpp (located on the QSSI github page) onto the device. Open up a serial port with baud rate 115200 to ensure the device is working correctly. You should see the time of next wake up on your screen. The reset button on the ESP32 may need to be pressed.
3. Double check a USB card is in the SD card adapter and remove device from computer.
4. Plug in a lithium ion battery into the ESP 32. A blue light should blink at plug in. It is recommended to restart device again.
5. Put the ESP32 into the housing and use a phillips head screw driver to secure device and housing.
6. Ensure all devices are connected to correct locations. Pyranometer plugs into P, Sonic Ranger plugs into S, Temperature Sensor plugs into T.

2 Getting Around

Part	Action	Location
Reset Button	Resets Device	1
Wifi Button	Begins Wi-fi	6
NVS Button	Flushes non-volatile storage	7
SD card adapter	Place SD card in adapter to read measurements	5
Battery	Port to plug in battery	4
Pyranometer	Reads solar radiation	8
Temperature Sensor	Reads temperature in Celcius	10
Sonic Ranger	Reads height to ground	9
Real Time Clock	Ensures device wakes up at set interval	2
Pyranometer Motherboard	Applies external ADC and amplifier	11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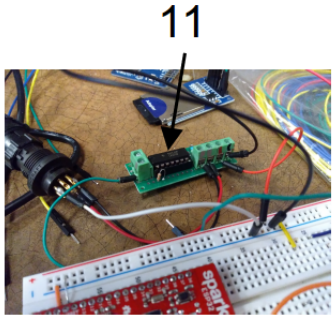
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3 Reading Measurements

1. When you have finished the alloted time press the NVS Button to remove all data from the non volatile storage.
2. Remove the SD card from the SD card adapter.
3. Plug in SD card into the computer and open up your labeled document.
4. Export files into a plotting software to make plots of measurements.

4 Getting Connected

1. Press wi-fi button to enable wi-fi on ESP32.
2. The ESP 32 will create a wi-fi hot spot which you can connect to via your smart device (computer, cell phone, etc.).
   SSID: QSSI-AWS
   Password: 12345678
3. Open up a browser and navigate to: 192.168.4.1
4. An HTML page will be displayed with the latest readings from the weather station.

5 Contacting Us

If you have any trouble with our device please contact us at the following location:
Quantitative Study of Snow and Ice
University of Montana
32 Campus Drive ISB406
Missoula MT 59801
Our secretary is on staff Monday-Friday 8am-5pm and can be reached via mail.