

Adafruit RFM96 400MHz
LoRa radio TX/RX

light; rain

Voltage (12V) of modbus devices is
different from 3V supplied to
modbus transducer.

[] temp; V+ = 12V
[] wind; V+ = 12V
[] light; V+ = 0V (usb pwr)
[] rain; V+ = 0V (usb pwr)

Adafruit BME688 Temp/
Humidity (indoors)

ANTENNA

3V rail
red

5V power from usb;
arduino regulator
produces 3V output
(red)

Adafruit
Itsy Bitsy M4

12V rail
orange

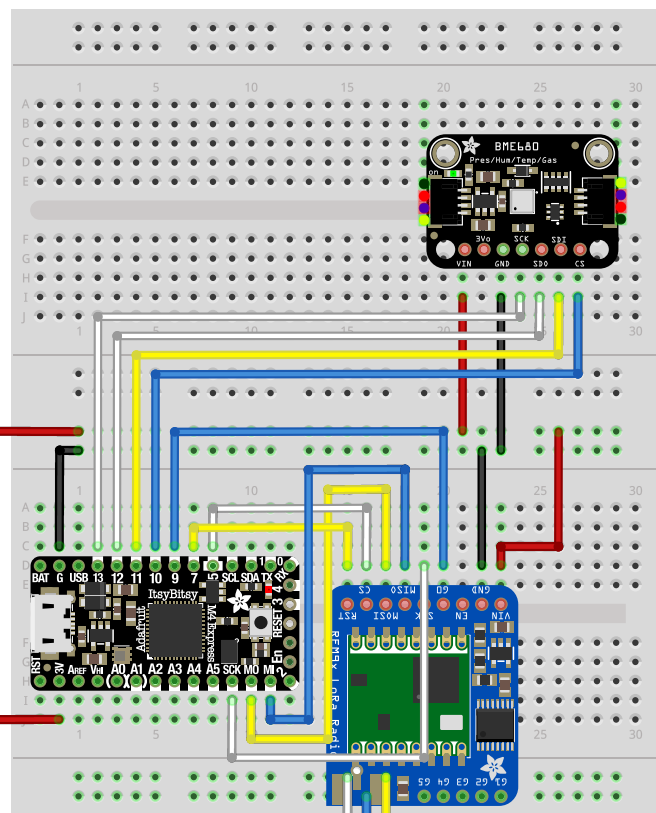
DEVBOARD TX OUTSIDE

12V power adapter

RS485
orange = V+
black = GND
blue = B-
yellow = A+

rj45/cat5 jacks
carry power and data to wind; temp;
carry data to light; rain;
NOT used for TCP !!!!

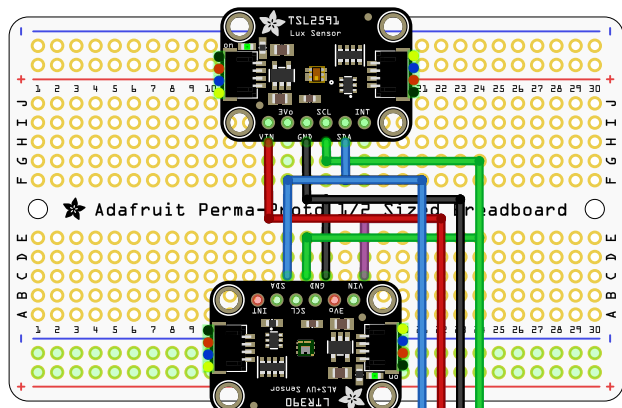
part labelled "MAX485" is
Songhe modbus transducer;
pin labelled in Chinese is GND;
DE/RE (choose TX/RX) is automatic;



Adafruit
Itsy Bitsy M4

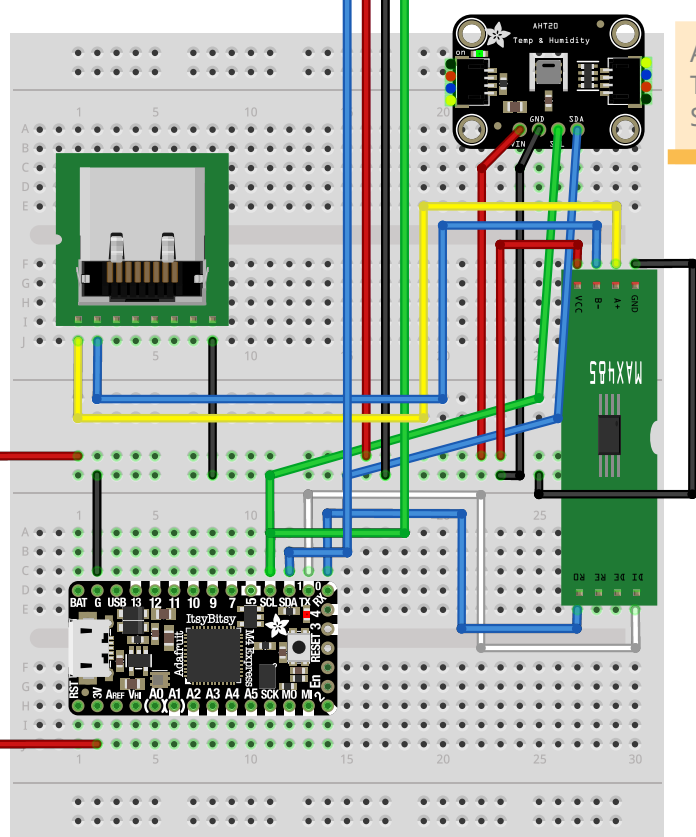
DEVBOARD RX INSIDE
USB CONNECTION TO
COMPUTER

Adafruit RFM96 400MHz
LoRa radio TX/RX



Adafruit
TSL2591 Light sensor

Adafruit
LTR390 IR sensor



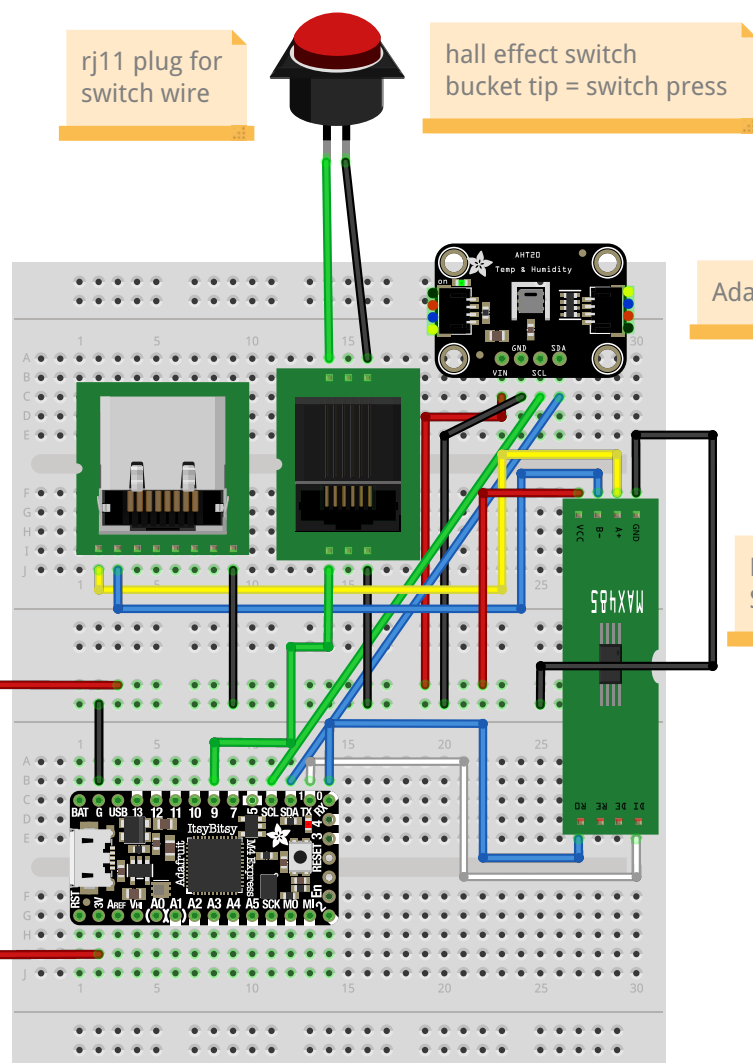
Adafruit AHT20
Temp/Humid.
Sensor

Modbus Transducer
Songhe

3V rail

Adafruit
Itsy Bitsy M4

DEVBOARD LIGHT OUTSIDE



rj11 plug for
switch wire

hall effect switch
bucket tip = switch press

Adafruit AHT20

Modbus Transducer
Songhe

3V rail

Adafruit
Itsy Bitsy M4

DEVBOARD RAIN OUTSIDE