

1. CM2322 Sensor

3.3 V

12C address $\rightarrow 0 \times 5C$

slave address : $0 \times B8 : 1011\ 1000$

7-bit address : $0 \times 5C : 101\ 1100$

Register address

Humidity $\rightarrow 0 \times 00$

Temperature $\rightarrow 0 \times 02$

```
#include <Wire.h>
byte data[8];
void setup() {
    Wire.begin();
    Serial.begin(115200);
    Serial.println("\n I2C Scanner");
}
void loop() {
    byte i, error;
    byte address = 0x5C;
    byte READ_Data = 0x03;
    byte READ_Start = 0x00;
    byte READ_Length = 0x04;
    float h, t;
    delay(5000);
    /* Wake sensor up */
    Wire.beginTransmission(address);
    error = Wire.endTransmission();
    /* Request data to sensor */
    Wire.beginTransmission(address);
    Wire.write(READ_Data);
    Wire.write(READ_Start);
    Wire.write(READ_Length);
    Wire.endTransmission();
    /* Read data */
    i = 0;
    Wire.requestFrom(0x5C, 8); // Req. 8 bytes
    while (Wire.available()) {
        data[i] = Wire.read();
        i++;
    }
```

```
from smbus import SMBus
addr = 0x8 # bus address
bus = SMBus(1) # indicates /dev/i2c-1
numb = 1
print("Enter 1 for ON or 0 for OFF")
while numb == 1:
    ledstate = input(">>> ")
    if ledstate == "1":
        bus.write_byte(addr, 0x1) # ON
    elif ledstate == "0":
        bus.write_byte(addr, 0x0) # OFF
    else:
        numb = 0 # QUIT

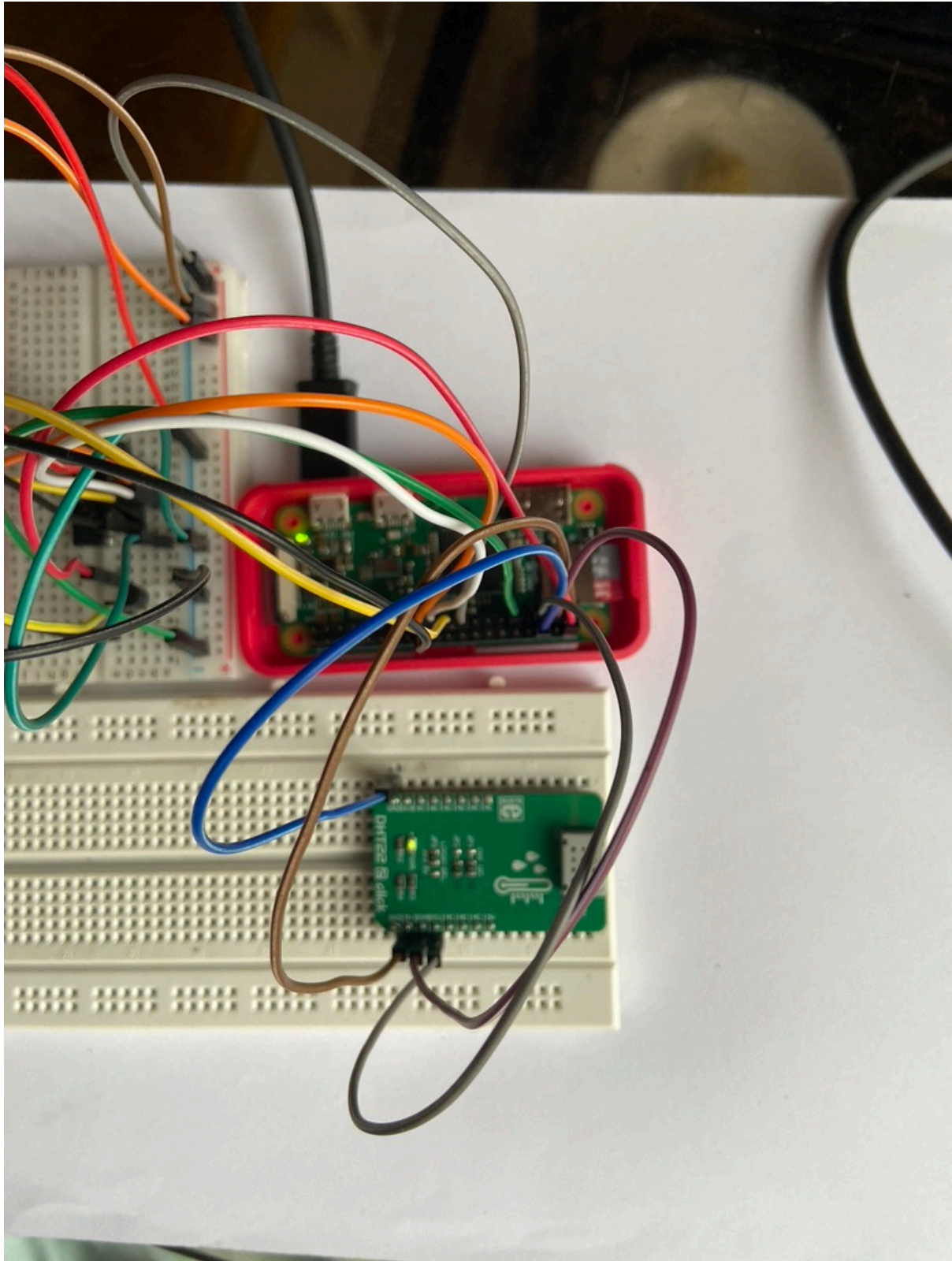
    /* compute humidity */
    h = ((word) data[2]) << 8 | data[3];
    h *= 0.1;
    /* compute temperature */
    t = ((word) (data[4] & 0x7F)) << 8 | data[5];
    t *= 0.1;
    if (data[4] & 0x80)
        t *= -1;

    Serial.print(F("Humidity: "));
    Serial.print(h);
    Serial.print(F(" Temperature: "));
    Serial.print(t);
    Serial.println(F("°C"));
```

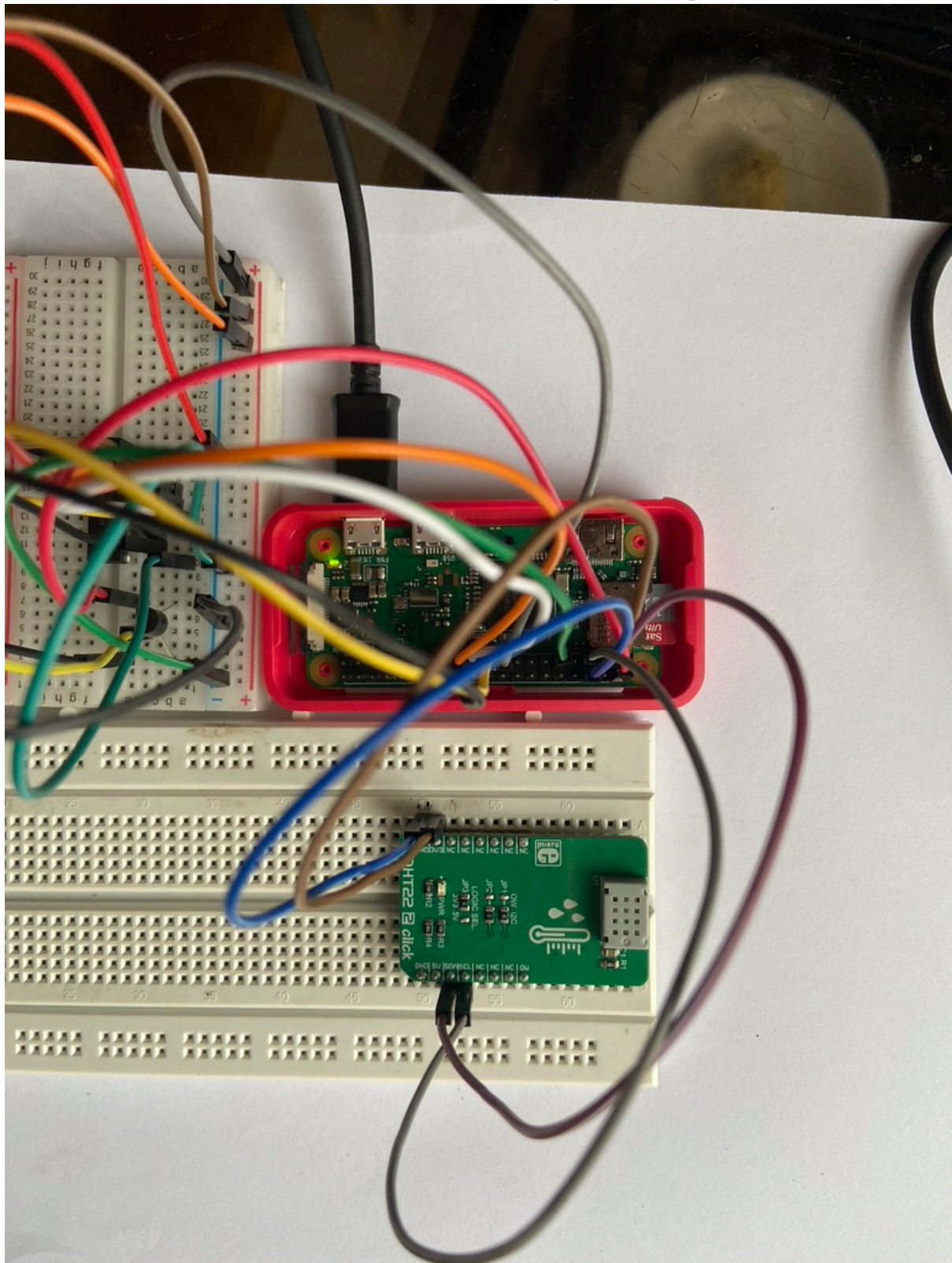
1.1. Some Faults

1.1.1. Fault # 1

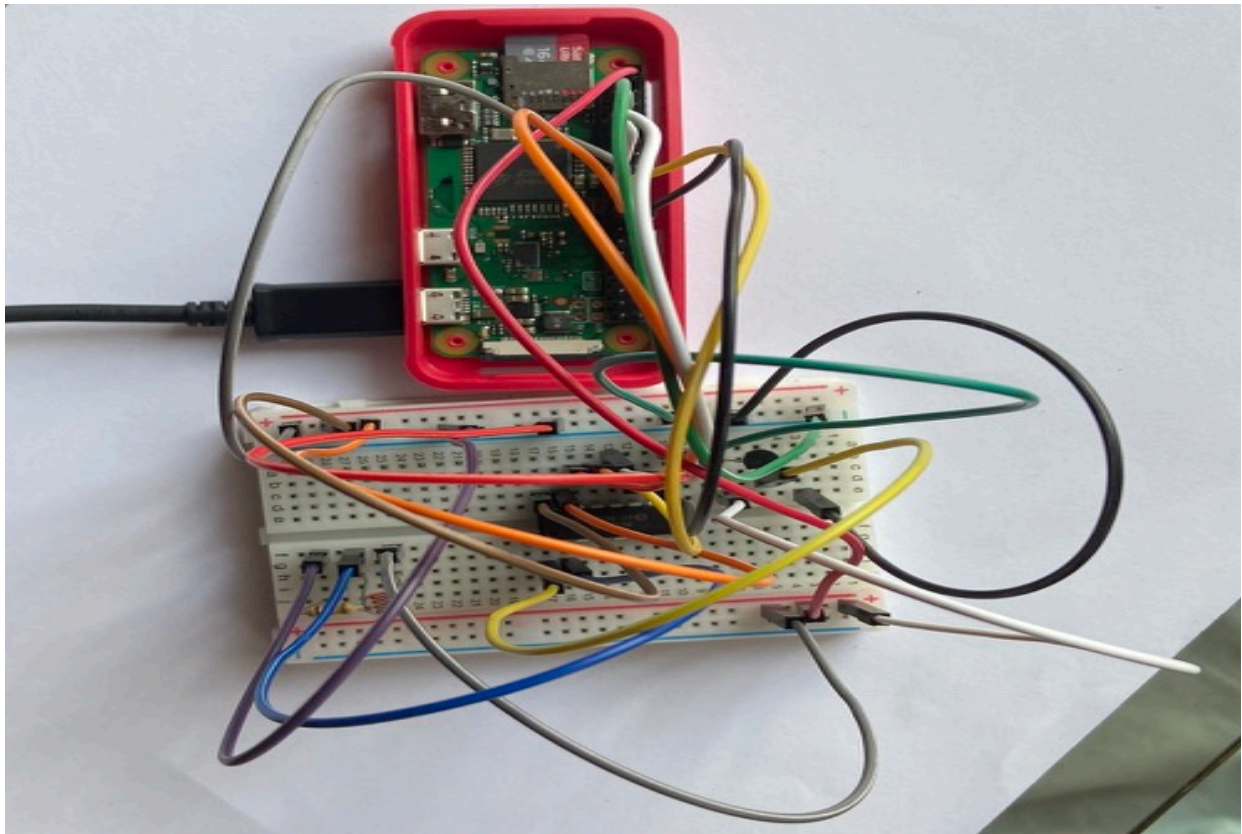
When connected to the 5V pin



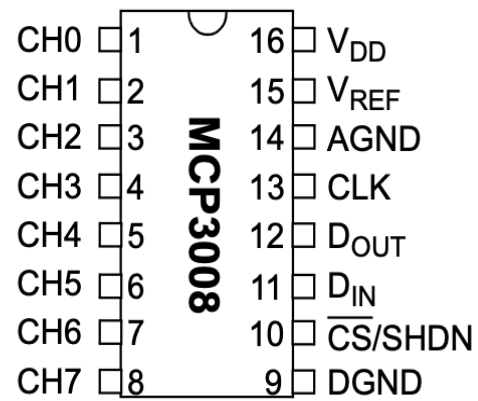
When connected to the 3V3 (default logic level) pin



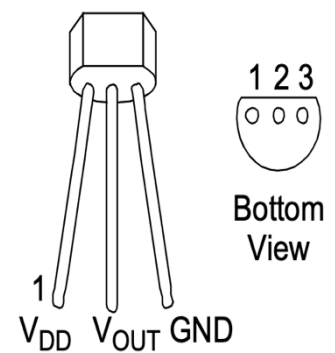
2. Final Connection



PDIP, SOIC



3-Pin TO-92 MCP9700/9700A MCP9701/9701A



3. Sample Output

```
[pi@pibot:~ $ python3 application.py
Temperature in degrees Celsius: 16.38 deg
Temperature in degrees Fahrenheit: 61.48 deg
Luminosity as a percentage: 28.35 %

Temperature in degrees Celsius: 15.88 deg
Temperature in degrees Fahrenheit: 60.58 deg
Luminosity as a percentage: 29.71 %

Temperature in degrees Celsius: 15.94 deg
Temperature in degrees Fahrenheit: 60.69 deg
Luminosity as a percentage: 29.62 %

Temperature in degrees Celsius: 15.94 deg
Temperature in degrees Fahrenheit: 60.69 deg
Luminosity as a percentage: 29.52 %

Temperature in degrees Celsius: 15.94 deg
Temperature in degrees Fahrenheit: 60.69 deg
Luminosity as a percentage: 29.42 %

Temperature in degrees Celsius: 15.81 deg
Temperature in degrees Fahrenheit: 60.46 deg
Luminosity as a percentage: 47.20 %

Temperature in degrees Celsius: 15.88 deg
Temperature in degrees Fahrenheit: 60.58 deg
Luminosity as a percentage: 49.94 %

Temperature in degrees Celsius: 15.81 deg
Temperature in degrees Fahrenheit: 60.46 deg
Luminosity as a percentage: 49.55 %
```