GoPiGo3 Sensors

Contents

Dexter Sensors

DI sensor documentation: https://di-sensors.readthedocs.io/en/master/

Dexter Temperature, Humidity, and Pressure Sensor

Barometric pressure compensation for altitude:

https://www.engineeringtoolbox.com/barometers-elevation-compensation-d_1812.html

1. Shutdown the GoPiGo3. (Do not connect sensors when the GoPiGo3 has power.)

2. Plug the sensor into an I2C port.

3. Mount the sensor on a sensor mount.

bme280_sensor.py

This program will read the Dexter Industries Temperature, Humidity Sensor (BME280) every 5 seconds and display to the console.

```python
1  #!/usr/bin/env python3
2  # Name: thp_sensor.py
3  # Purpose: Read temperature, humidity and barometric pressure
4  # ------------------------------------------------
5  # History
6  # ------------------------------------------------
7  # Author      Date         Comments
8  # Loring      10/24/21     Changed to fahrenheit, convert pressure to inHg,
9  #                          compensate for altitude
10 # Barometric pressure compensation for altitude:
11 # https://www.engineeringtoolbox.com/barometers-elevation-compensation-d_1812.html
12 #
13 # DI sensor documentation: https://di-sensors.readthedocs.io/en/master/
14 #
15 # Python example program for the Dexter Industries
16 # BME280 Temperature Humidity Pressure Sensor
17
```

```python
18 from time import sleep
19 from di_sensors.easy_temp_hum_press import EasyTHPSensor
20
21 print("Example program for reading Dexter Industries")
22 print("Temperature Humidity Pressure Sensor on an I2C port.")
23
24 my_thp = EasyTHPSensor()
25
26 while True:
27     # Read the temperature
28     # temp = my_thp.safe_celsius()
29     temp = my_thp.safe_fahrenheit()
30
31     # Read the relative humidity
32     hum = my_thp.safe_humidity()
33
34     # Read the pressure in pascals
35     press = my_thp.safe_pressure()
36
37     # Convert pascals to inHg, compensate for 4000' altitude
38     press = (press / 3386.38867) + 4.08
39
40     # Print the values to the console
41     print("Temperature: {:5.1f}F  Humidity: {:5.1f}%  Pressure: {:5.2f}".format(
42         temp, hum, press))
43
44     # Pause between readings
45     sleep(5)
```

Dexter Grove Buzzer

Plug the buzzer into AD1 or AD2.

Example code in Code Examples.

Dexter Light and Color Sensor

Plug the Light and Color sensor into an I2C port.

Example code in Code Examples