GoPiGo3 Sensors

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Dexter Sensors Documentation

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.

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

```

```
from time import sleep
from di_sensors.easy_temp_hum_press import EasyTHPSensor

print("Example program for reading Dexter Industries")
print("Temperature Humidity Pressure Sensor on an I2C port.")

my_thp = EasyTHPSensor()

while True:
    # Read the temperature
    # temp = my_thp.safe_celsius()
    temp = my_thp.safe_fahrenheit()

    # Read the relative humidity
    hum = my_thp.safe_humidity()

    # Read the pressure in pascals
    press = my_thp.safe_pressure()

    # Convert pascals to inHg, compensate for 4000' altitude
    press = (press / 3386.38867) + 4.08

    # Print the values to the console
    print("Temperature: {:5.1f}F  Humidity: {:5.1f}%  Pressure: {:5.2f}".format(
        temp, hum, press))

    # Pause between readings
    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

Dexter Inertial Measurement Unit (IMU)

Plug into I2C port.

Example code in Code Examples.

Dexter IR Sensor and Remote

Plug into port AD1

Example code in Code Examples.