SGP30 Project Instructions

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1 Documents

1.1 Baseline

In order to use the sensor you have to let it run for 12 hours so you can obtain the baseline values, this have to be done for each specific place. When you run the Baseline_arduino.ino code and open the monitor seria you will see, fig 1.

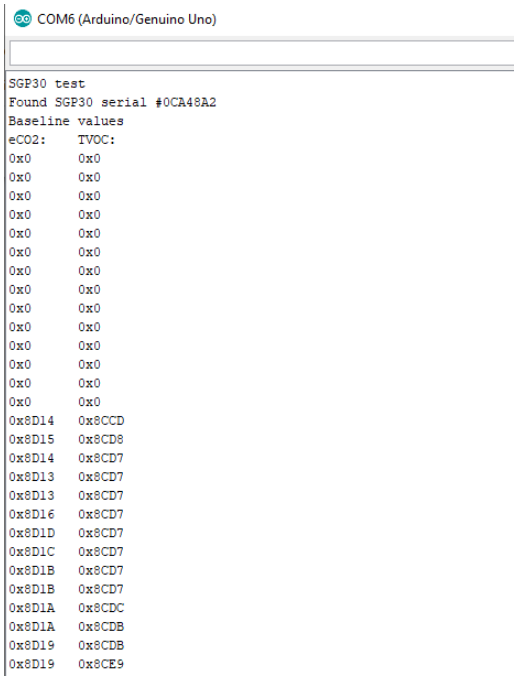

Figure 1: Caption

1.2 Data

Once you have the baseline values you can run the TVOC_arduino.ino code, first you have to set the values that you obtained before, fig. 2, this value will be updated every hour, fig. 3. You shouldn't power off the sensor, see datasheet.

```
  // Set baseline values obtained before
  sgp.setIAQBaseline(0x96B1, 0x93CA);


void loop() {
  time = millis();
  // If you have a temperature / humidity sensor,
  //you can set the absolute humidity to enable the humditiy compensation for the air quality signals
  float temperature = 23; // [°C]
  float humidity = 26; //[%RH]
  sgp.setHumidity(getAbsoluteHumidity(temperature, humidity));

  if (! sgp.IAQmeasure()) {
    Serial.println("Measurement failed");
    return;
  }
  Serial.print(time); Serial.print(" \t ");
  Serial.print(sgp.TVOC); Serial.print(" \t \t ");
  Serial.println(sgp.eCO2);
```

Figure 2: Baseline, temperature, and relative humidity values set

```
 current_time = time / (1000/0.000277777);
 if (last_time != current_time ) {
   last_time = current_time;
   uint16_t TVOC_base, eCO2_base;
   if (! sgp.getIAQBaseline(&eCO2_base, &TVOC_base)) {
       Serial.println("Failed to get baseline readings");
       return;
   }

   sgp.setIAQBaseline(eCO2_base, TVOC_base ); //Sets the baseline value every
```

Figure 3: Baseline update

Once you run the monitor serial you will see something like in fig 4.

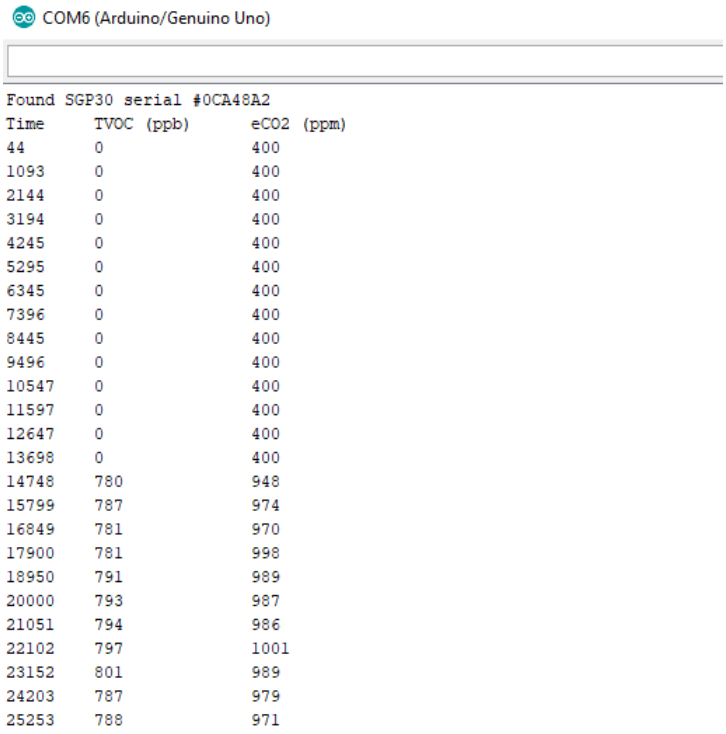

Figure 4: Monitor serial, data

1.3 CSV file

The Arduino doesn't allow to save the data that comes from the monitor serial, you have to either copy-paste or to use another program to save all the port information. I wrote a python program that takes all the information and saves it in a csv file.

1.3.1 Baseline

If you run the CSV_baseline python code you will get fig XXX, this is all the information that comes through the port, once you clean the file you should get

1.3.2 Data

You have to run the CSV_data, you will get ,and once you clean the file you will have .

Change the names of the file every time you want to create a new file of data, otherwise you will write always on the same file.