

For Carbon Dioxide detection in air

This code communicates with the MQ135 air quality sensor with the help of the [MQ135.h library](#). The sensor is supposed to preheat for 24 hours before taking readings. Once the code runs, it prints out the concentration of detected gases in ppm on a serial monitor, and the results are displayed on an LCD screen. An alarm system (LED light) is also set to glow if the CO₂ values cross a threshold value of 1000ppm.

Detailed explanation is given in the [video tutorial](#)

CO2Sensor.ino

```
#include "MQ135.h" //Main library that contains functions to get the
ppm values
#include <Wire.h>
#include <LiquidCrystal_I2C.h> //Header file for LCD

LiquidCrystal_I2C lcd(0x27,16,2); //set the LCD address to x27 for a 16
chars and 2 line display

#define led          9 //led on pin 9
const int gas_pin = A0; //analog feed from MQ135
MQ135 gasSensor = MQ135(gas_pin); //Define the gas pin in the
function mq135 gas sensor as per the mq135 library

void setup(){

    lcd.init(); // initialize the lcd
    lcd.begin(16,2); // consider 16 chars + 2 lines lcd
    lcd.backlight(); // illuminate to produce visible
reading
    lcd.clear(); // clear lcd
    lcd.setCursor(4,0); //set cursor of lcd to 1st row and
5th column
    lcd.print("Group L"); // print as a sentence on lcd

    pinMode(gas_pin,INPUT); //MQ135 analog feed set for input
    pinMode(led,OUTPUT); //led set for output

    Serial.begin(9600); //serial comms for debugging
}

void loop(){
    float ppm = gasSensor.getPPM();
    Serial.println(ppm); // print ppm on serial monitor
    delay(1000);
    lcd.clear(); // clear lcd
    lcd.setCursor(0,0); // set cursor of lcd to 1st row and
1st column
    lcd.print("Air Quality: "); // print as a sentence on lcd
```

```
lcd.print(ppm);           // print value of MQ135
if(ppm>999){              //if co2 ppm > 1000
  digitalWrite(led,HIGH); //turn on led
  lcd.setCursor(2,1);     // set cursor of lcd to 2nd row and
3rd column
  lcd.print("AQ Level BAD"); //print as a sentence on lcd
}
else{
  digitalWrite(led,LOW);  //turn off led
  lcd.setCursor(1,1);     // set cursor of lcd to 2nd row and
2nd column
  lcd.print ("AQ Level Good"); // print as a sentence on lcd
}
}
```

[Back to report](#)

From: <https://student-wiki.eolab.de/> - HSRW EOLab Students Wiki

Permanent link: https://student-wiki.eolab.de/doku.php?id=amc2021:group1:code:carbon_dioxide_measuring&rev=1630811557

Last update: 2023/01/05 14:38

