

## 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 CO<sub>2</sub> 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
}
}
```

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