

## 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"
#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);

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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