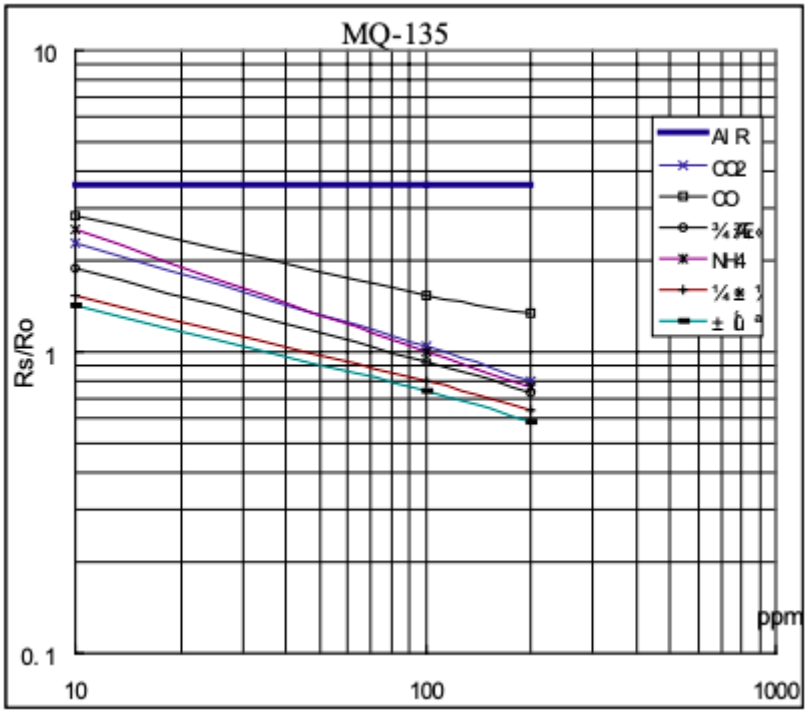
M_Q135.h

Rzero is the value of the resistor in the MQ-135 sensor in the presence of clean air. Where the CO_2 value is around 400 ppm as given below. The Rzero value varies for each individual sensor and can be found using another Arduino code

- RLOAD meanwhile is the external resistor value that is connected to the MQ-135 sensor, which in this case is 10kΩ.
- Important parameters are for calculating CO_2 of 116.6 and 2.79 are taken from a calibration graph as seen from the datasheet. This shows the sensitivity of the sensor varies for each gas.



From the below code, we replace the Rzero value(which we get with the function getRzero()) and use the float getPPM() to get the level of CO_2

M_Q135.h

```
<code>
/*****************************************************************************
****/
/*!
@file     MQ135.h
@author   G.Krocker (Mad Frog Labs)
@license  GNU GPLv3
@section  HISTORY

v1.0 - First release
*/
/*****************************************************************************
****/
```

```
#ifndef MQ135_H
#define MQ135_H
#if ARDUINO >= 100
 #include "Arduino.h"
#else
 #include "WProgram.h"
#endif

/// The load resistance on the board
#define RLOAD 10.0
/// Calibration resistance at atmospheric CO2 level
#define RZERO 65 //Dependent on the sensor
/// Parameters for calculating ppm of CO2 from sensor resistance
#define PARA 116.6020682
#define PARB 2.769034857


/// Parameters to model temperature and humidity dependence
#define CORA 0.00035
#define CORB 0.02718
#define CORC 1.39538
#define CORD 0.0018

/// Atmospheric CO2 level for calibration purposes
#define ATMOCO2 400

class MQ135 {
 private:
  uint8_t _pin;

 public:
  MQ135(uint8_t pin);
  float getCorrectionFactor(float t, float h);
  float getResistance();
  float getCorrectedResistance(float t, float h);
  float getPPM();
  float getCorrectedPPM(float t, float h);
  float getRZero();
  float getCorrectedRZero(float t, float h);
};
#endif
</code>
```

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