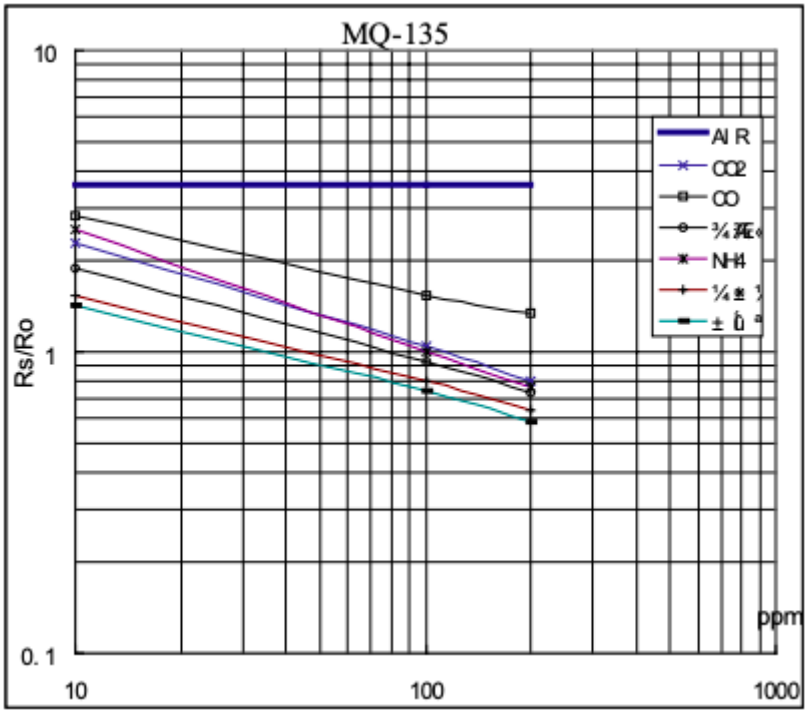
M_Q135.h

*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 397.13 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.



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
/// 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 397.13

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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