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Information for the MH-Z16 CO_2 Sensor

Introduction

- The MH-Z16 is a low-cost rod-shaped sensor that uses NDIR technology to measure CO_2.
- Any microcontroller can be used to control this sensor. However, this guide and the associative codes will use an Arduino Uno to operate the device.
- The sensor connects to a blue I^2C/UART Interface board that easily connects to an Arduino or Raspberry Pi.

Important Notes

- The sensor is sensitive to sunlight. Therefore, DO NOT place in direct contact with sunlight.
- Do not expose the sensor to water or rainy conditions.

Links

- Product Info:
  https://sandboxelectronics.com/?product=mh-z16-ndir-co2-sensor-with-i2cuart-5v3-3v-interface-for-arduinoraspeberry-pi
- Datasheet:
  https://sandboxelectronics.com/wp-content/uploads/2018/08/Z16DS.pdf
- Arduino Library:
  https://github.com/SandboxElectronics/NDIR

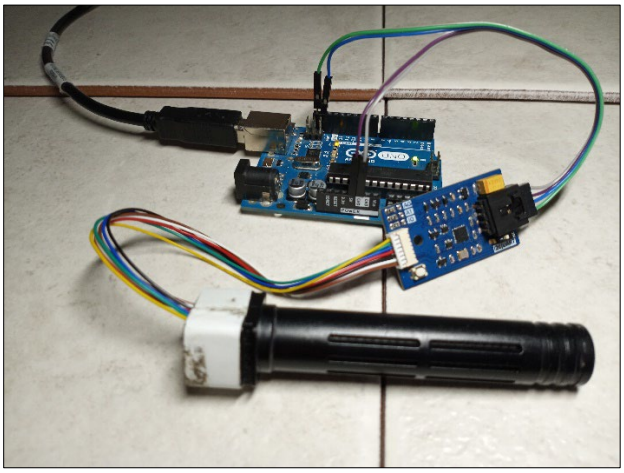

Figure 1. Picture of the sensor and the interface board connected to an Arduino Uno

Wiring

- Communication with the sensor is performed via the I^2C, UART, or PWM methods.
- The Interface board allows for the I^2C and UART methods.
- The MH-Z16 sensor is still operable without an Interface board via the PWM method.
- This guide will cover how to use the sensor through I^2C and PWM.

Wiring – Method # 1 (Recommended for ease and more accurate data)

- This method requires the Interface board so that I^2C is used to communicate with the sensor.
- Below is a wiring diagram and a schematic diagram of the circuit.

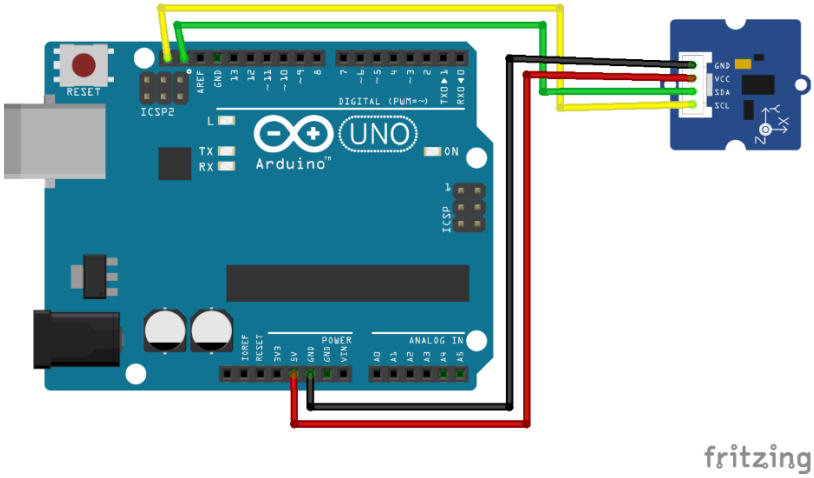

Figure 2. Wiring Diagram between an Arduino Uno and the interface board

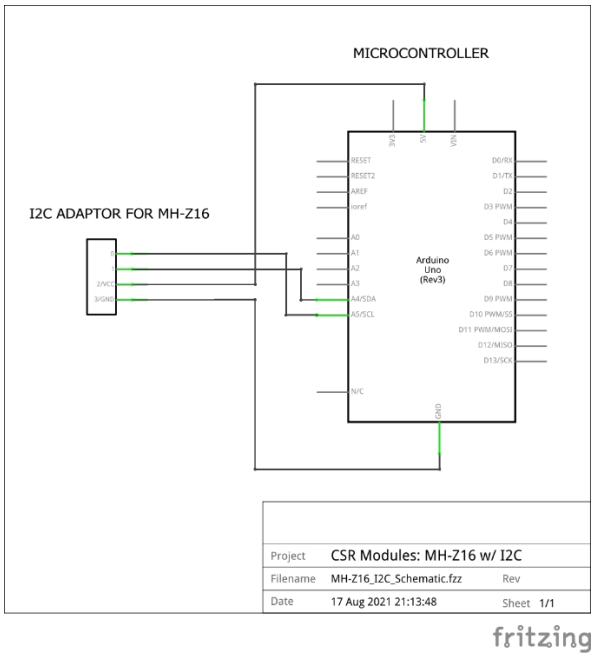

Figure 3. Schematic between an Arduino Uno and the interface board

Wiring – Method #2 (Not recommended, but is usable)

- This method does not require the Interface board.
- Use this only if an Interface board is unavailable.

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Contact

For any questions or assistance, email Adriann Liceralde at adriann8399@gmail.com.