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Information for SCD-30 CO2 Sensor

Introduction

- The SCD-30 is a low-cost NDIR-based sensor that measures CO2, temperature, and humidity.
- Any microcontroller can control this sensor. However, this guide and the associative codes will use an Arduino Uno to operate the device.

Important Notes

- This device is EXTREMELY sensitive to electrostatic discharge.
- NEVER touch the sensor UNLESS wearing Anti-Static Gloves.
- Even if the sensor is not connected to a power source, still exercise extreme caution.
- The sensor is sensitive to sunlight. Therefore, DO NOT place in direct contact with sunlight.

Links

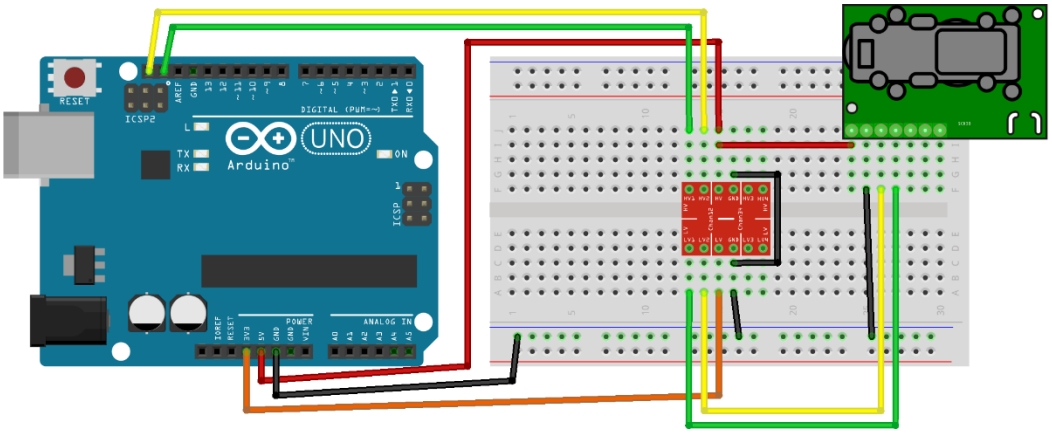
- Product Info: https://www.sensirion.com/en/environmental-sensors/carbon-dioxide-sensors/carbon-dioxide-sensors-scd30/
- Arduino Library: https://github.com/sparkfun/SparkFun_SCD30_Arduino_Library

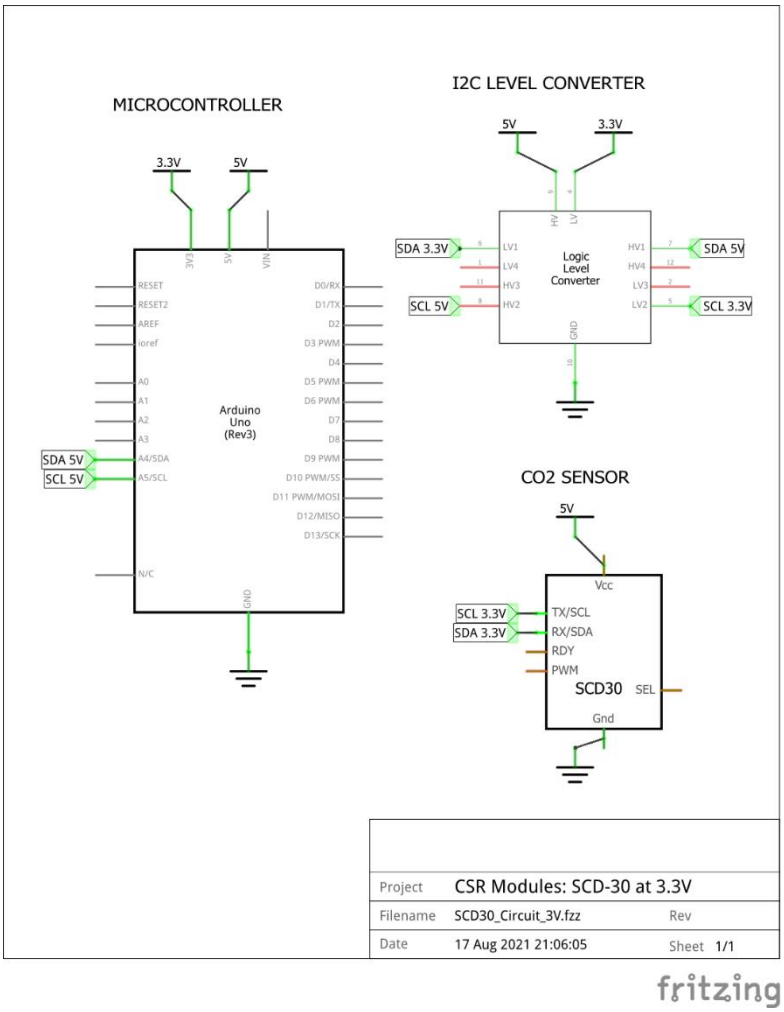
Wiring

- To operate the sensor, a minimum of 4 pins are required to be connected to an Arduino:
    - VIN (Voltage Input)
    - GND (Ground)
    - SCL (Clock Line for I^2C communication)
    - SDA (Data Line for I^2C communication)
- The sensor can accept a voltage input range of 3.3V to 5.5 V.
- The I^2C pins can be at 5V but are highly recommended to be at 3.3 V.
- Therefore, the sensor can be wired up in two ways.

Wiring – Method #1 (Recommended method for long-term use)

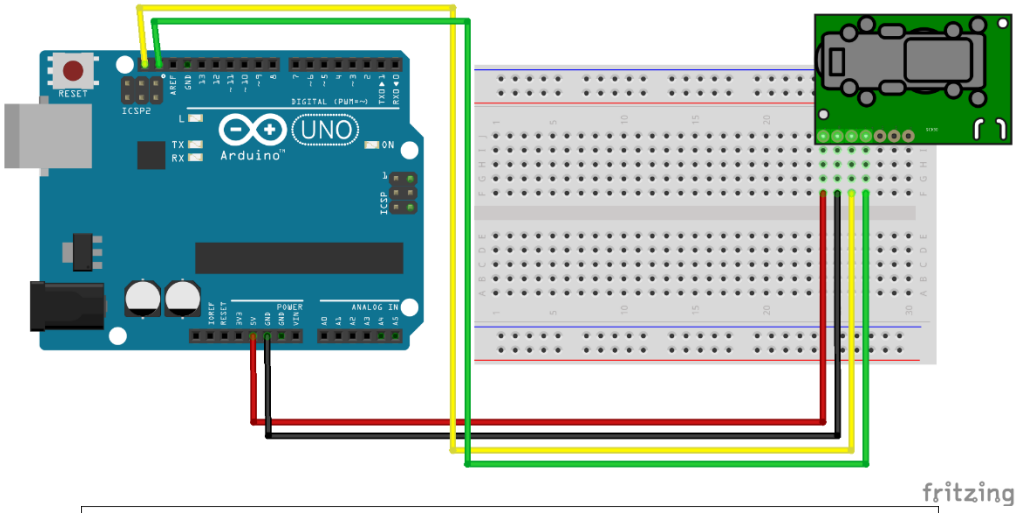
- This method powers the sensor at 5V with the SCL and SDA lines operating at 3.3V using a Bi-Directional Logic Converter.
- Below is a breadboard view and a schematic of the circuit.

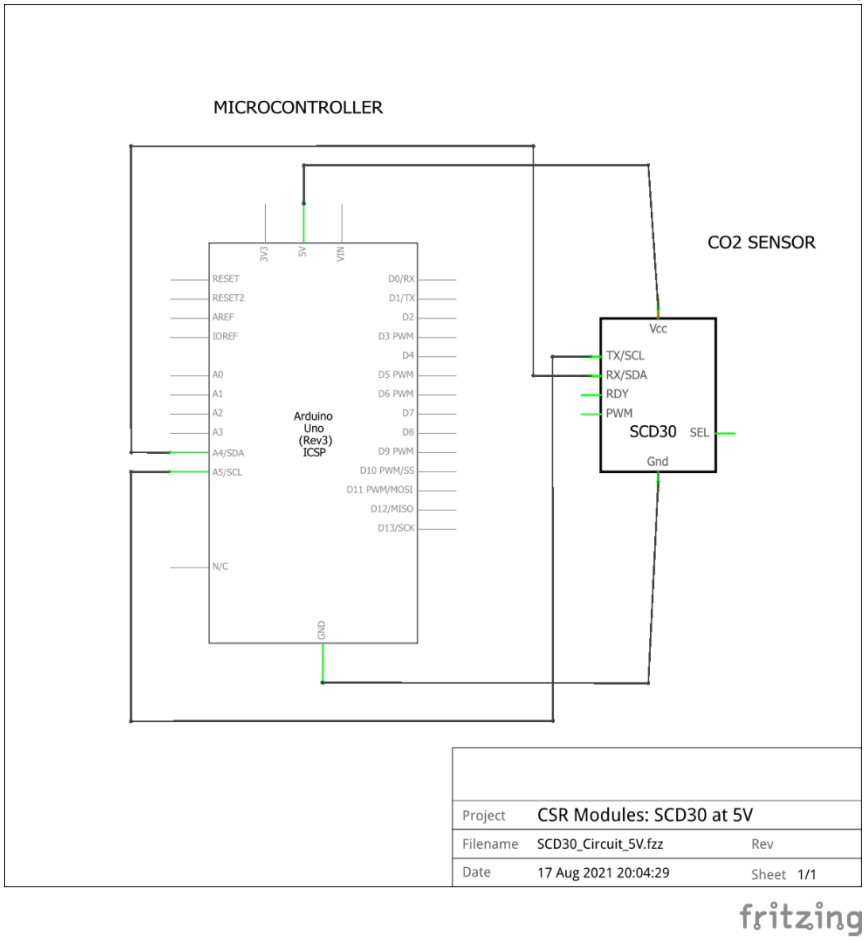




Wiring – Method #2 (Not recommended, but is the simpler method)

- This method powers the sensor at 5V with the SCL and SDA lines operating at 5V.
- Below is a breadboard view and a schematic of the circuit.





Contact

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