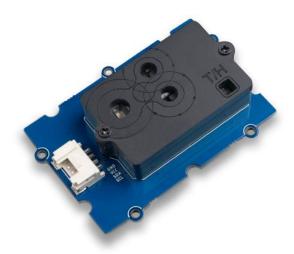# seeed studio

Description: Grove - CO2 & Temperature & Humidity Sensor for Arduino (SCD30) - 3-in-1
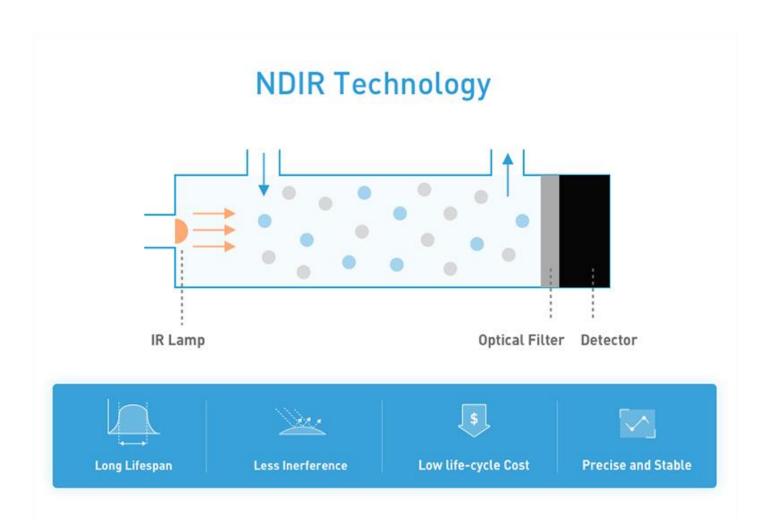
Part Number: 101020634

Overview:

The Grove - SCD30 is a 3-in-1 Arduino sensor that can measure CO2, temperature, and humidity. Based on Sensirion SCD30, it is a Non-Dispersive Infrared (NDIR) carbon dioxide sensor with high precision and wide measurement accuracy. It would be a perfect choice if you are looking for a multifunctional sensor for your Arduino weather station or other environmental projects.
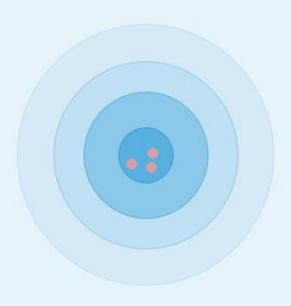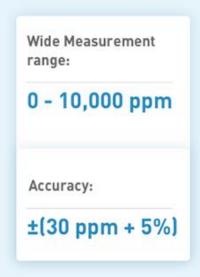

Product Details:

NDIR Technology

IR Lamp

Optical Filter   Detector

Long Lifespan   **Less Inerference**   **Low life-cycle Cost**   **Precise and Stable**

Wide Measurement Range and High Accuracy

Accurate and Precise

Wide Measurement range:

0 - 10,000 ppm

Accuracy:

±(30 ppm + 5%)

Comparison

Grove Sensor (SCD30)

Measurement range

0 - 10,000 ppm

Accuracy

±(30 ppm + 3%)

VS

Grove - Carbon Dioxide Sensor (MH-Z16)
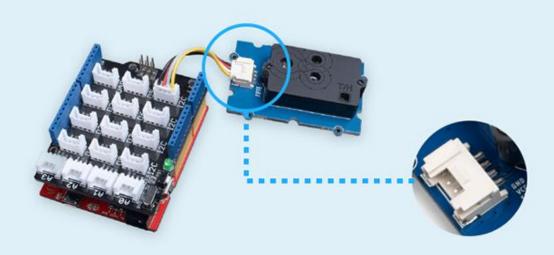
Measurement range

0 - 5,000 ppm

Accuracy

±(50 ppm + 5%)

Convenient and Easy to Use

Application Senario

Key Features:

- NDIR CO2 sensor technology: embedded with Sensirion SCD30
- Multi-function: Integrates temperature and humidity sensor on the same sensor module
- High precision and wide measurement accuracy: ±(30 ppm + 3%) between 400ppm to 10'000ppm
- Superior stability: Dual-channel detection
- Easy project operation: Digital interface I2C, Breadboard-friendly, Grove compatible
- Best performance-to-price ratio.

Description:

The Grove - SCD30 is a 3-in-1 Arduino sensor that can measure CO2, temperature, and humidity. Based on Sensirion SCD30, it is a Non-Dispersive Infrared (NDIR) carbon dioxide sensor with high precision and wide measurement accuracy which can reach ± (30 ppm + 3%) between 400ppm to 10'000ppm. It would be a perfect choice if you are not looking for a simple Arduino temperature sensor or a CO2 sensor, but a multifunctional sensor for your Arduino weather station or other environmental projects.

We've released the Seeed Gas Sensor Selection Guide and the Grove Selection Guide, it will help you choose the Grove that best suits your needs.
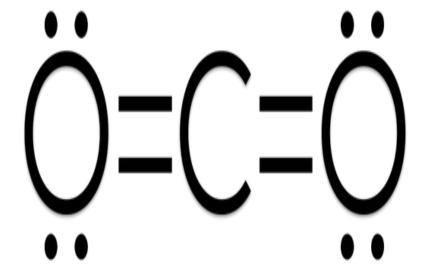
Embedded with Sensirion SCD30, The Grove - SCD30 integrates Non-Dispersive Infrared(NDIR) measurement technology for CO2 detection. It also has Sensirion humidity and temperature sensors on the same sensor module.

You can see that there is a monkey face graphic on the module, actually, this is a carbon dioxide molecular model. As you can see, the 4 valence electrons on each oxygen atom and also the covalent bonds between the carbon and oxygen atoms are clearly shown.

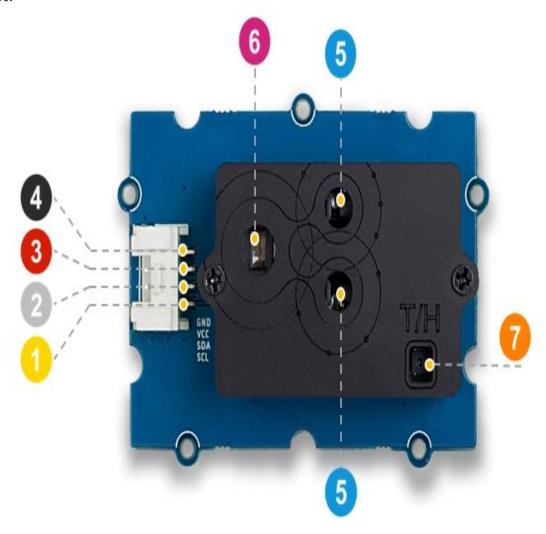Here is a Lewis structure of the CO2 molecule:

Application Ideas:

- Air Purifier
- Environmental Monitoring
- Plant Environmental Monitoring system
- Arduino weather station

Pinout:

4 GND: connect this module to the system GND

3 VCC: you can use 5V or 3.3V for this module

2 SDA: I²C serial data

1 SCL: I²C serial clock

5 CO_2 Sensor Opening

6 Infrared Light Source

7 Temperature & Humidity Sensor Opening

ECCN/HTS

HSCODE	9027100090
USHSCODE	9027102000
UPC	