



Part Number: SEN0220

Description: Gravity: UART Infrared CO2 Sensor (0-50000ppm)

INTRODUCTION

DFRobot released its latest wide range Arduino infrared CO2 sensor, which effective range is up to 0~50000ppm. This sensor is based on non-dispersive infrared ([NDIR](#)) technology and has good selectivity and oxygen-free dependency. It integrates temperature compensation and support UART communication mode. Most importantly, the product is easy to use; it is compatible with all types of microcontrollers with UART port, like Arduino, Raspberry Pi and other microcontrollers. Besides, it has a long service life, up to 5 years!

In addition, this UART Infrared CO2 Sensor is a high-performance sensor that combines technology of mature infrared absorption gas detection with precision optical circuit design as well as sophisticated circuit design. It has characteristics such as wide range detection, high sensitivity, high resolution, low power consumption, fast response, anti-water vapor interference, no poisoning, high stability and long life.

It can be widely used in HVAC refrigeration and indoor air quality monitoring, industrial process and safety monitoring, agricultural and animal husbandry production process monitoring, etc..





[DFRobot LCD Keypad Shield](#) with UART Infrared CO2 Sensor

This is a 0~50000ppm wide range CO2 sensor with UART communication port. It supports Arduino, Raspberry Pi and other microcontrollers. In addition, we also have a 0~5000 ppm high precision infrared sensor with Gravity Analog interface, more easy to use: [Gravity Analog Infrared CO2 Sensor \(0~5000ppm\)](#).

FEATURES

- High sensitivity High resolution
- Low power consumption
- Excellent stability
- Temperature compensation
- Excellent linear output
- High cycle life
- Anti-water vapor interference
- No poisoning

- Need 5V power supply, even you are using a 3.3V microcontroller, like Genuino 101/ Raspberry Pi .etc.

SPECIFICATION

- Gas Detection: Carbon Dioxide (CO₂)
- Operating Voltage: 4.5 ~ 5.5V DC
- Average Current: <85mA
- Output Signal: UART/PWM/Analog output (the last two has not been developed)
- Measuring Range: 0 ~ 50000ppm
- Accuracy: $\pm (50\text{ppm} + 5\% \text{ reading})$
- Preheating Time: 3min
- Response Time: T₉₀ < 30s
- Operating Temperature: 0 ~ 50 °C
- Operating Humidity: 0 ~ 95% RH (no condensation)
- Service Life: >5 years
- Board Dimension : 21 * 27.11 mm/ 0.83 * 1.06 inches
- Weight: 42g

SHIPPING LIST

- UART Infrared CO₂ Sensor Probe (0-50000ppm) x1
- Sensor Converter Board x1
- 6-Pin Sensor Cable x1
- PH2.0 Gravity UART Cable x1
- XH2.54 4-Pin header x1