Gravity: Analog CO2 Gas Sensor For Arduino (MG-811 Sensor)

SKU:SEN0159

NTRODUCTION

"Greenhouse Effect" is melting the Earth ice core every minute and creating dangerous icebergs. By knowing the exact concentration of CO2(Carbon Dioxide), we can do something to reduce the CO2 and to protect our Earth. Here is the Arduino-based CO2 sensor designed by DFRobot lovely engineer.

This is the first CO2 sensor in the Arduino market. The output voltage of the module falls as the concentration of the CO2 increases. The potentiometer onboard is designed to set the threshold of voltage. As long as the CO2 concentration is high enough (the voltage is lower than the threshold), a digital signal (ON/OFF) will be released.

- It has MG-811 sensor module which is highly sensitive to CO2 and less sensitive to alcohol and CO, low humidity & temperature dependency.
- Onboard heating circuit brings the best temperature for the sensor to function. Internal power boosting to 6V for heating sensor best performance.

- This sensor has an onboard conditioning circuit for amplifying output signal.

To ease the difficulty of using this CO2 sensor, a Gravity Interface is adapted to allow plug&play. The Arduino IO expansion shield is the best match for this CO2 senor connecting to your Arduino microcontroller.

This is an electrochemical Arduino-based CO2 sensor, it is suitable for qualitative analysis. There are other Infrared CO2 sensors, which could make a quantitative analysis.

Gravity: Analog Infrared CO2 Sensor For Arduino (0~5000 ppm), high precision, apply to Arduino and other microcontrollers with ADC function.

Gravity: UART Infrared CO2 Sensor (0-50000ppm), wide range, apply to Arduino, Raspberry Pi and other microcontrollers with UART function.

APPLICATIONS

- Air Quality Control
- Ferment Process Control
- Room Temperature CO2 concentration Detection

SPECIFICATION

- Operating Voltage:5V
- Interface: Gravity Analog
- One digital output
- High-quality connector
- Immersion gold surface
- Onboard heating circuit
- Size:32x42mm (1.26x1.65")

Gravity CO2 Sensor Selection Guide			
			
Product Name	**Gravity : Analog Electrochemistry CO2 Sensor**	**Gravity : Analog IR CO2 Sensor**	**Gravity : UART IR CO2 Sensor**

SKU	SEN0159	SEN0219	SEN0220
Operation Voltage	3.7～5V	4.5～5.5V	4.5～5.5V
Output	Gravity: Analog (Analog2.7～4.1V) + 3P Header Digital Output(Alarm):0～VCC Level	Gravity: Analog (Analog Output 0.4～2V)	Gravity: UART (0～3.3V Level)
Measurement Principle	Electrochemistry （Solid electrolyte battery principle）	NDIR(non-dispersive infrared)	NDIR(non-dispersive infrared)
Measurement Range	0～10000 ppm	0～5000 ppm	0～50000 ppm
Accuracy	±100ppm@400ppm	±(100ppm + 6% readings)	±(100ppm + 6% readings)
Response Time	<20s	<90s	<30s
Average Power	<1W	<430mW@5V	<430mW@5V
Operation Temperature	-20℃～50℃	0℃～50℃	0℃～50℃
Operation Humidity	0～95% RH (No condensation)	0～95% RH (No condensation)	0～95% RH (No condensation)
Lifespan	>1 years	>5 years	>5 years
Dimension (PCB)	32*42 mm	37*69 mm	21*27.1 mm
Features	1.Large Range 2.Adjustable Alarm Threshold 3.Fast Response 4.Analog Output	1.High Accuracy 2.Long Lifespan 3.Auto Temperature Compensation 4.Water Vapor Interference Resistance 5.Analog Output	1.High Accuracy 2.Large Range 3.Long Lifespan 4.Auto Temperature Compensation 5.Water Vapor Interference Resistance 6.3.3V UART Output