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Sensors / [Air Sensors](#) / Gravity: I2C Oxygen Sensor

Gravity: I2C Oxygen Sensor

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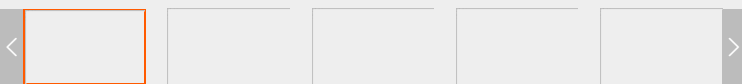
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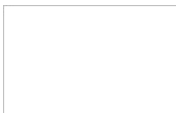
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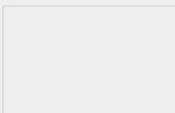
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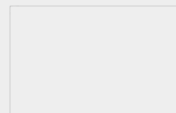
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INTRODUCTION

The Gravity: I2C Oxygen Sensor is based on electrochemical principles and it can measure the ambient O2 concentration accurately and conveniently. With high anti-interference ability, high stability and high sensitivity, this arduino-compatible oxygen sensor can be widely applied to fields like portable device, air quality monitoring device, and industries, mines, warehouses and other spaces where air is not easy to circulate.

This compact dfrobot oxygen sensor supports I2C output, it can be calibrated in the air, can accurately measure the oxygen concentration in the environment. It is compatible with many mainboards like [Arduino Uno](#), [esp32](#), [Raspberry Pi](#) and so on. Its effective range is 0~25%Vol, and resolution can reach to 0.15%Vol. It supports wide range input voltage: 3.3V to 5.5V. Moreover, the lifetime is as long as 2 years. With simple [Gravity](#) interface and practical sample code, you can build your own oxygen concentration monitor easily and conveniently.

FEATURES

- High sensitivity
- I2C Interface
- Compatible with both 3.3V and 5V micro-controllers
- Polarity protection

SPECIFICATION

- Detection of Gas: oxygen
- Operating Voltage: 3.3 to 5.5V DC
- Output Signal: I2C output
- Measurement Range: 0~25%Vol
- Maximum Measurement limit: 30%Vol
- Resolution: 0.15%Vol
- Sensitivity: (0.10±0.05) mA (in the air)
- Stability: <2% (Every month)
- Repeatability: <2%
- Response Time: ≤15 seconds
- Operating Temperature: -20~50°C
- Operating humidity: 0~99%RH (no condensation)
- Pressure Range: standard atmospheric pressure ±10%
- Lifetime:> 2 years (in the air)
- Dimension(L x W x H): 37 * 27 * 24.5 mm/1.46 * 1.06 * 0.97 inches
- Weight:0.037kg

DOCUMENTS

- [Product wiki](#)
- [More Documents](#)

SHIPPING LIST

- Oxygen Sensor module *1
- Gravity-4pin I2C Cable *1
- M3*10 Nylon post *4
- M3*5 Screws *8

REVIEW

FAQ

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n the discussion...

**Holmes Chang** • 20 days ago • edited


Hi,
Are there any Raspberry-Pi resource on the application of the Oxygen sensor?
My meaning is how to combine the Oxygen sensor with RPi-board, so that I can use Python code to achieve the oxygen concentration.
Thanks.

• Reply • Share >

**Holmes Chang** → Holmes Chang • 14 days ago

No any response? XDD


• Reply • Share >

**DFRobot Support** → Holmes Chang • 11 days ago

Hi Holmes,

Sorry there's no example code for this sensor to use it with Raspberry Pi.

• Reply • Share >

**Holmes Chang** → DFRobot Support • 6 days ago

Thanks.
However, from your Web introduction that mention the sensor is compatible with the Raspberry-Pi is in the content?

^ · Reply · Share >



Gustavo Ortega · 2 months ago

Hi. This sensor is intrinsically safe?

^ · Reply · Share >



Felix.fu → Gustavo Ortega · 2 months ago

Sorry, I don't understand the meaning of the word "intrinsically". Could you explain it in detail?

^ · Reply · Share >



Gustavo Ortega → Felix.fu · 2 months ago

Hi Felix.fu....Intrinsically safe is defined as "equipment and wiring which is incapable of releasing sufficient electrical or thermal energy under normal or abnormal conditions to cause ignition of a specific hazardous atmospheric mixture in its most easily ignited concentration."

^ · Reply · Share >



DFRobot Support Mod → Gustavo Ortega · 2 months ago

Hi, the air in our life can be used, but if there is combustible gas or gas containing oxygen atoms in the hermetic space, it will affect the measurement result, it is recommended not to use it.

^ · Reply · Share >



controlytics io · 3 months ago

Hi I want to measure oxygen concentration varying from 5% to 98% is it suitable for the application

^ · Reply · Share >



DFRobot Support Mod → controlytics io · 2 months ago · edited

Sorry, Its effective range is 0~25%Vol, not suitable for above 25%vol.

^ · Reply · Share >



DFRobot Support Mod → controlytics io · 3 months ago

Hi,

Yeah, it's suitable for the application but please pay attention not to store and use it in high concentration acid gas for a long time.

^ · Reply · Share >



Talal Abboud → DFRobot Support · 2 months ago

This is really confusing, we can measure o2 concentration above 30%? what is the range? I need it to design Diving Nitrox measuring system.

^ · Reply · Share >



DFRobot Support Mod → Talal Abboud · 2 months ago

Hi, It's not suitable for the application with o2 concentration above 25%.

The actual maximum measurement is 30%Vol, but we do not recommend use, it will reduce the life of the sensor.

^ · Reply · Share >



Cat_in_Box → DFRobot Support · 3 months ago · edited

He asked about 5% to 98%, this sensor only can do 0~25%Vol. You said "yes"? Come on DF, you can be better! Don't lie or you guys may mislead others.

^ · Reply · Share >



DFRobot Support Mod → Cat_in_Box · 2 months ago

Sorry, I misunderstood the meaning of Controlytics io...

^ · Reply · Share >



Mason Powell Newitt · 4 months ago

"other spaces where air is not easy to circulate"

is this sensor not suitable in ventilated environments?

^ · Reply · Share >

DFRobot Support

Mod

Mason Powell Newitt • 4 months ago

Hi, The gas itself has fluidity so it could detect by the sensor.

^

•

Reply

•

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>

Gustavo Ortega

DFRobot Support • 3 months ago

Good evening. This sensor is exactly what i was looking for. Do you have anothers sensors like this to measure the ambient CH4 and CO concentration? Thanks for your help.

^

•

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