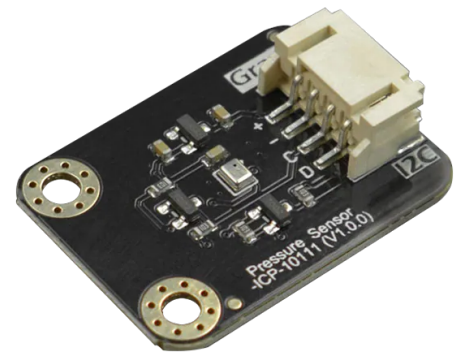# Gravity: ICP-10111 Pressure Sensor

SEN0517

Product Overview

03/20/2023

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

DFRobot Gravity: ICP-10111 Pressure Sensor is based on MEMS capacitor technology to achieve ultra-low power consumption, industry-leading relative accuracy and temperature offset coefficient. This sensor can measure the pressure difference with an accuracy of ±1Pa. This accuracy enables altitude measurement differentials as small as 8.5cm. The Gravity: ICP-10111 pressure sensor noise can be as low as 0.4Pa and the read data will be more stable.

This sensor module also features a built-in temperature sensor for air pressure compensation and offers a temperature coefficient offset of ±0.5 Pa/°C. Typical applications include UAV height control, indoor navigation and positioning, and vertical speed measurement.

Features

- Relative accuracy ±1Pa (as small as 8.5cm height measurement difference)
- ±0.5Pa/°C temperature coefficient offset with high stability for long-term use
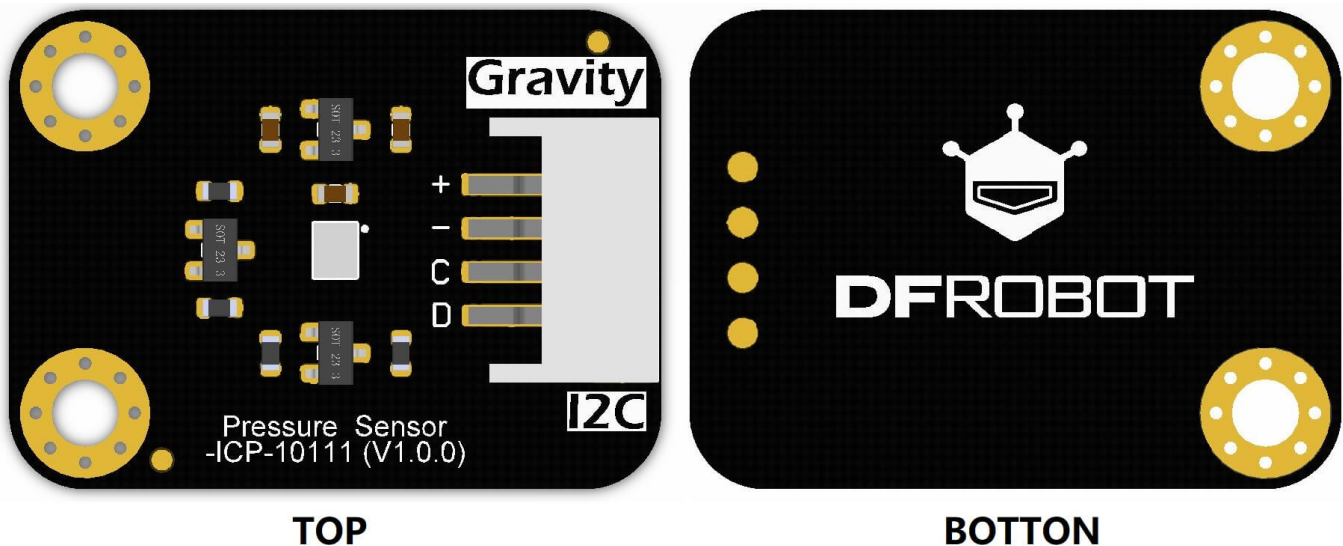- 0.4Pa Pressure noise for more stable data

Applications

- UAV height control
- Indoor navigation and positioning
- Vertical speed measurement
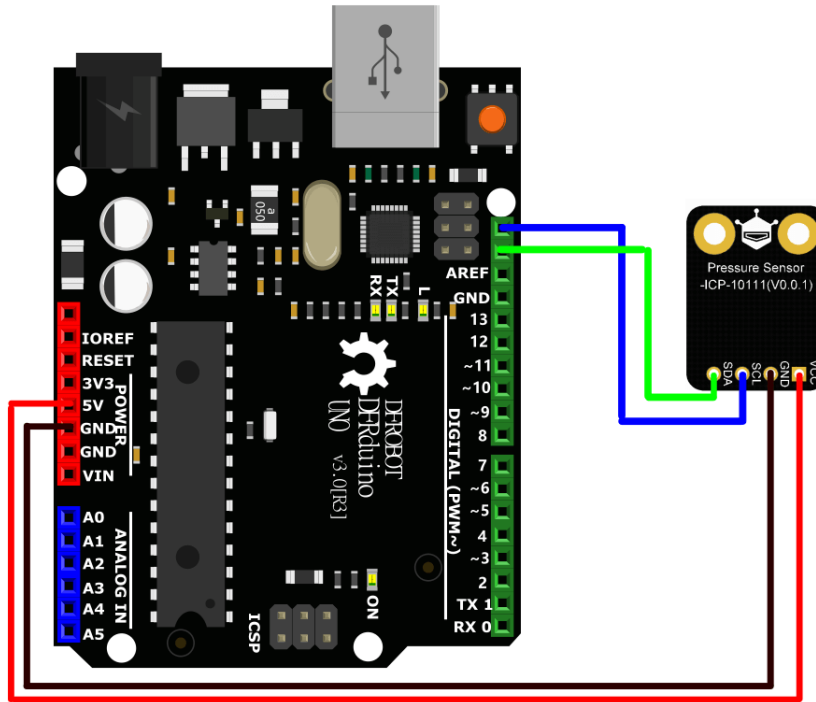- Enhancing reality and virtual display applications

Specifications

- 3.3V to 5.5V working voltage range
- <2mA working current
- I²C communication
- 0x63 I²C address
- 30kPa to 110kPa Barometric pressure measurement range
- Relative Barometric pressure measurement accuracy
- ±0.01hPa (950hPa to 1050hPa, 25°C)
- Absolute Barometric pressure measurement accuracy:
- ±1hPa (950hPa-1050hPa, 0°C to 65°C)
- Temperature coefficient offset:
    - ±0.5Pa/°C (100kPa, 25°C to 45°C)
- ±0.4°C absolute temperature measurement accuracy
- -40°C to 85°C working temperature range
- Dimensions:
    - 30mm x 22mm/1.18inch x 0.87inch

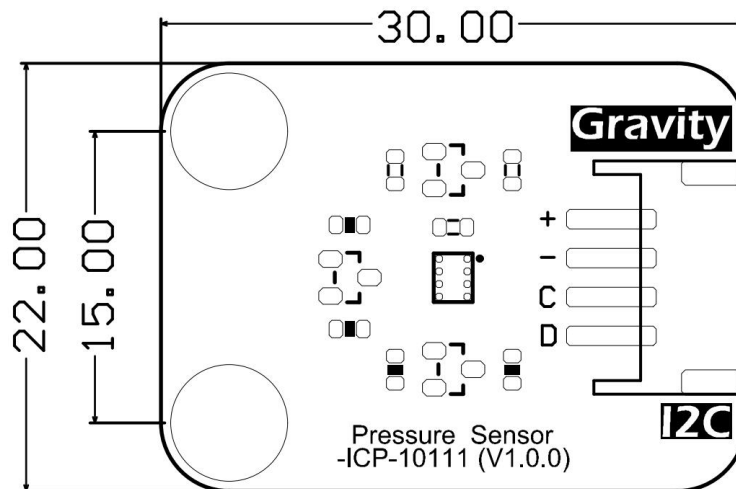## Board Overview

TOP

BOTTON

Connection Diagram

Dimensions Diagram (mm)

Mouser Part Number

[View Part](#)

To learn more, visit https://www.mouser.com/new/dfrobot/dfrobot-gravity-icp-10111-pressure-sensor/