

# Fermion ICP-10111 Pressure Sensor (Breakout)

SEN0516

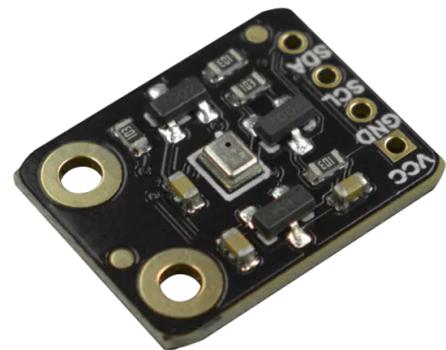
## Product Overview

01-20-2023

For the most up-to-date information, visit [www.mouser.com](http://www.mouser.com) or the supplier's website.

## Description

DFRobot Fermion ICP-10111 Pressure Sensor (Breakout) is a barometric pressure temperature sensor equipped with TDK's ICP-10111 sensor. The sensor is based on MEMS capacitor technology to achieve ultra-low power consumption, industry-leading relative accuracy, and temperature offset co-efficient. The Fermion ICP-10111 barometric pressure temperature sensor can measure the pressure difference with an accuracy of  $\pm 1\text{Pa}$ , an accuracy enabling altitude measurement differentials as small as 8.5cm.



The pressure noise can be as low as 0.4Pa, and the read data will be more stable. There is a built-in temperature sensor for air pressure compensation. The ICP-10111 sensor offers a temperature co-efficient offset of  $\pm 0.5 \text{ Pa}/^\circ\text{C}$ , which is more stable for long-term use. The combination of high accuracy, low power, and temperature stability in a small footprint enables high performance barometric pressure sensing for sports activity identification, mobile indoor/outdoor navigation, and altitude-hold in drones.

## Features

- Relative accuracy  $\pm 1\text{Pa}$ , as small as 8.5cm height measurement difference
- $\pm 0.5\text{Pa}/^\circ\text{C}$  temperature coefficient offset, high stability for long-term use
- 0.4Pa pressure noise and more stable data

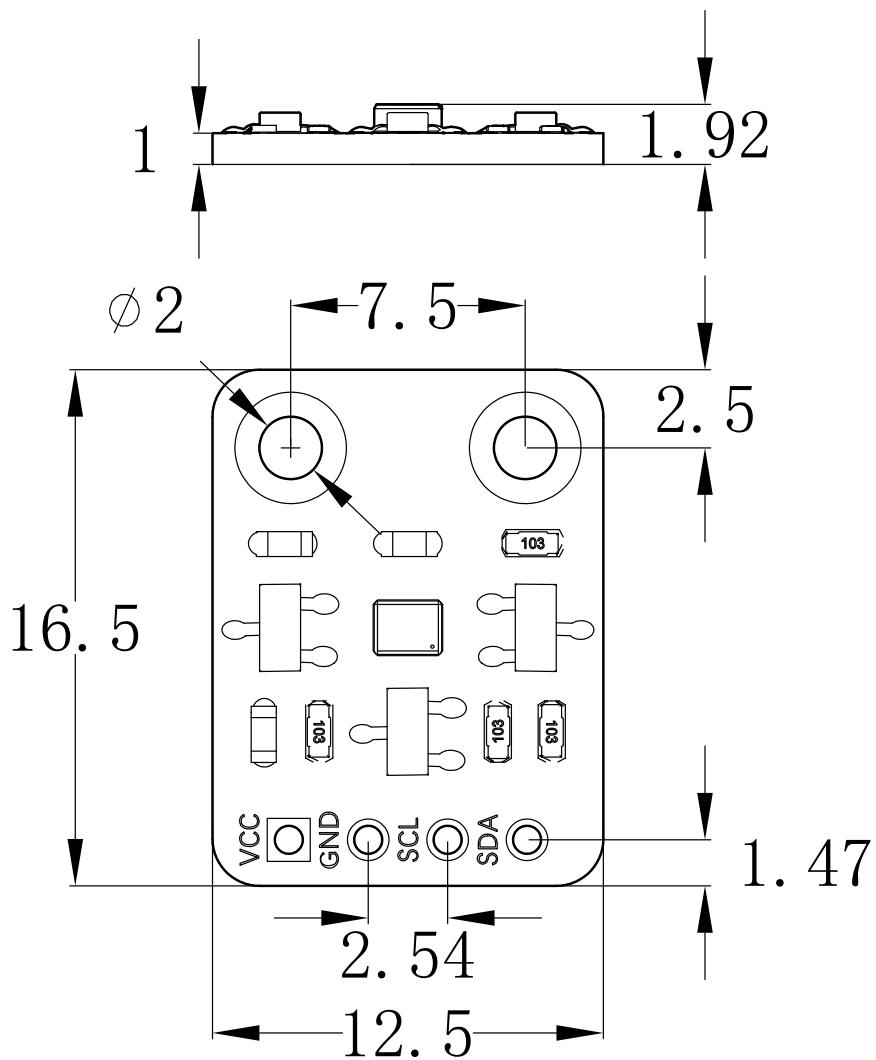
## Applications

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

## Specifications

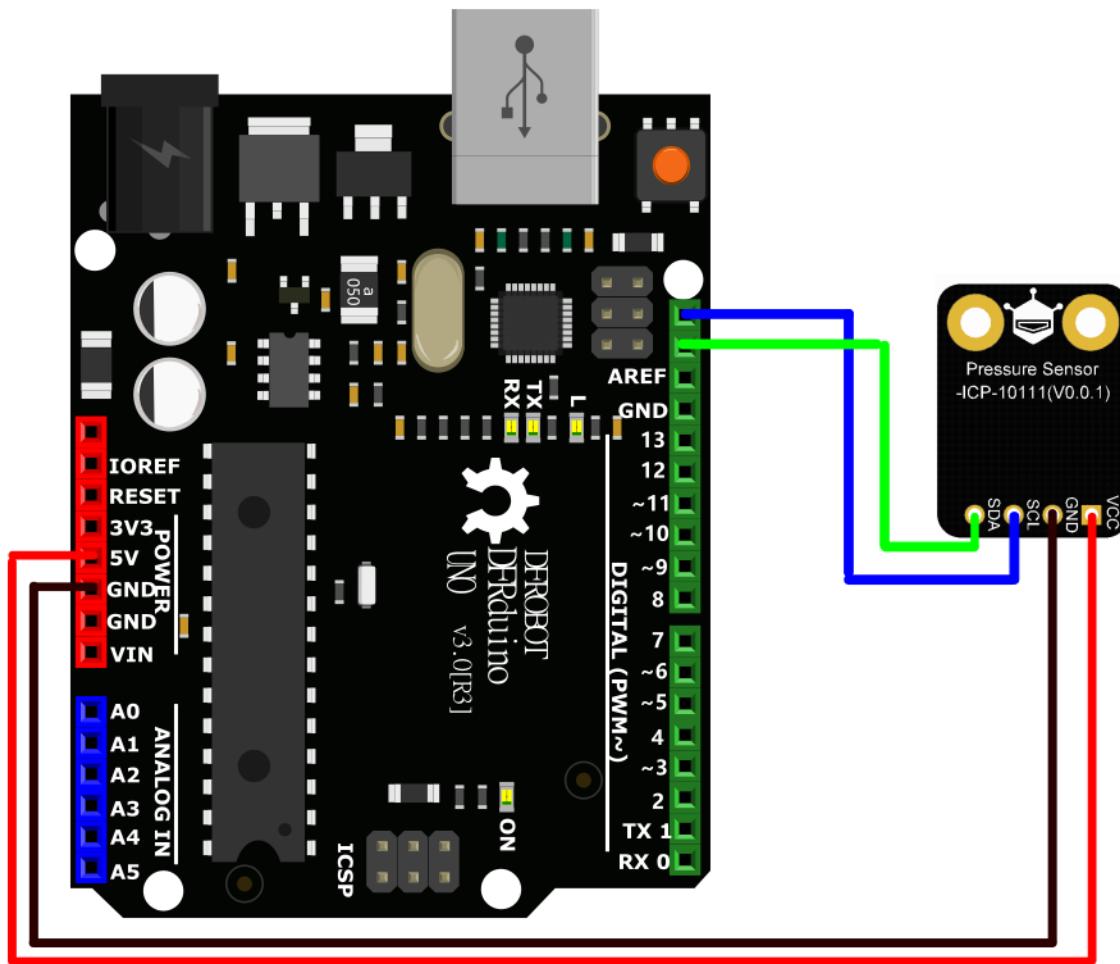
- 3.3V ~ 5.5V working voltage
- <2mA working current
- I<sup>2</sup>C communication
- 0x63 I<sup>2</sup>C address
- Air pressure measurement range of 30kPa ~ 110 kPa
- Relative barometric pressure measurement accuracy of  $\pm 0.01\text{hPa}$  (950hPa~1050hPa, 25°C)
- Absolute barometric pressure measurement accuracy of  $\pm 1\text{hPa}$  (950hPa-1050hPa, 0°C~65°C)
- Temperature co-efficient offset of  $\pm 0.5\text{ Pa/}^{\circ}\text{C}$  (100kPa, 25°C ~ 45°C)
- Absolute temperature measurement accuracy of  $\pm 0.4^{\circ}\text{C}$
- -40°C ~ 85°C working temperature
- 16.5mm x 12.5mm / 0.65inch x 0.49inch dimensions

## Dimensions in mm



*The information contained in this document should be used as a guideline only.*

## Connection Diagram



## Mouser Part Number

[View Part](#)

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