

Fermion ENS160 Air Quality Sensor (Breakout)

SEN0515

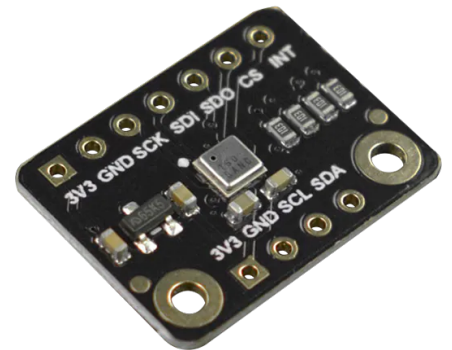
Product Overview

11/25/2022

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

Description

DFRobot Fermion ENS160 Air Quality Sensor is based on ScioSense's new ENS160 sensor chip. This sensor is specifically designed for indoor air quality monitoring and offers the detection of multiple IAQ data (TVOC, eCO₂, and AQI). The innovative TrueVOC™ technology combines the Metal Oxide (MOX) technology to bring sensor superior accuracy, fast response, and anti-interference in this air quality sensor.



The ENS160 air quality sensor features a built-in algorithm, accurate output, automatic baseline correction, 3.3V power supply voltage, and 29mA working current. This module is used in air purification, environment pollution detection, electrical appliances, and building automation.

Features

- Multiple IAQ outputs (TVOC, eCO₂, and AQI)
- Less than 3 minutes warm-up time, get data faster
- Built-in algorithm, more accurate output
- Automatic baseline correction, more stable for long-term use

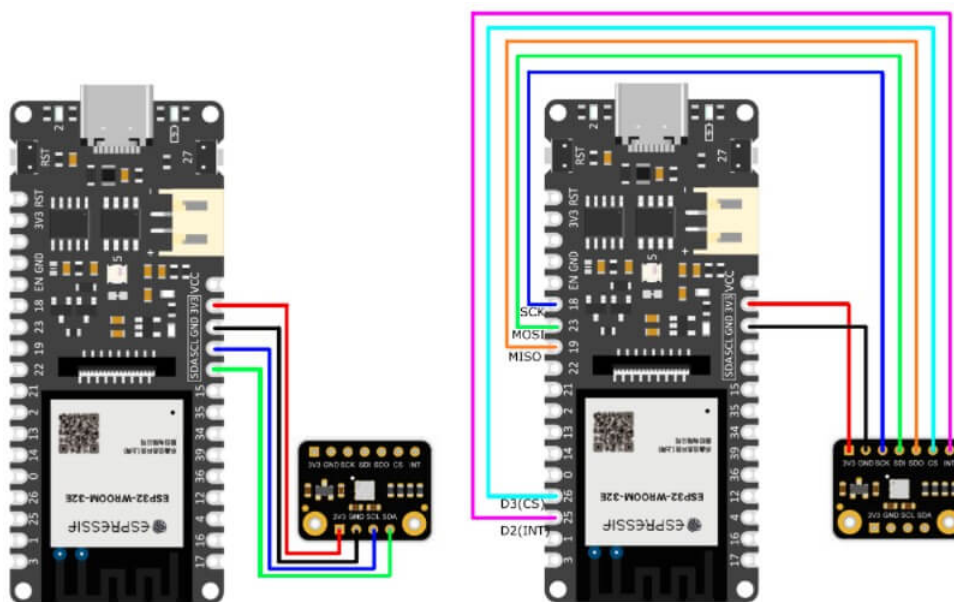
Specifications

- 3.3V power supply voltage
- 29mA working current
- I²C and SPI interface mode
- 0x52 and 0x53 (default) I²C address
- -40°C to 85°C operating temperature range
- 5%RH to 95%RH working humidity range
- 400ppm to 65000ppm eCO₂ measurement range
- 0ppb to 65000ppb TVOC measuring range
- 20mm x 15mm/0.79" x 0.59" product size

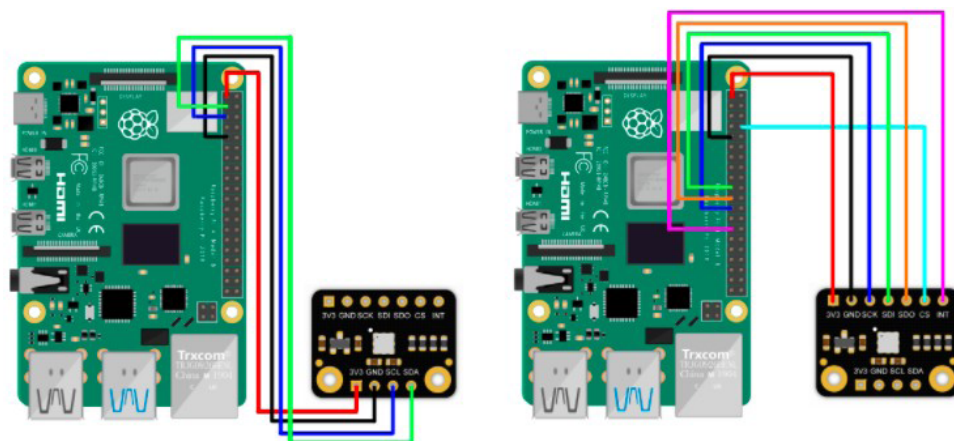
Applications

- Air purification/home automation device
- Environmental pollution detection
- HVAC/ventilation system
- Building automation/smart thermostat
- Electrical appliances/range hoods

Connection Diagrams

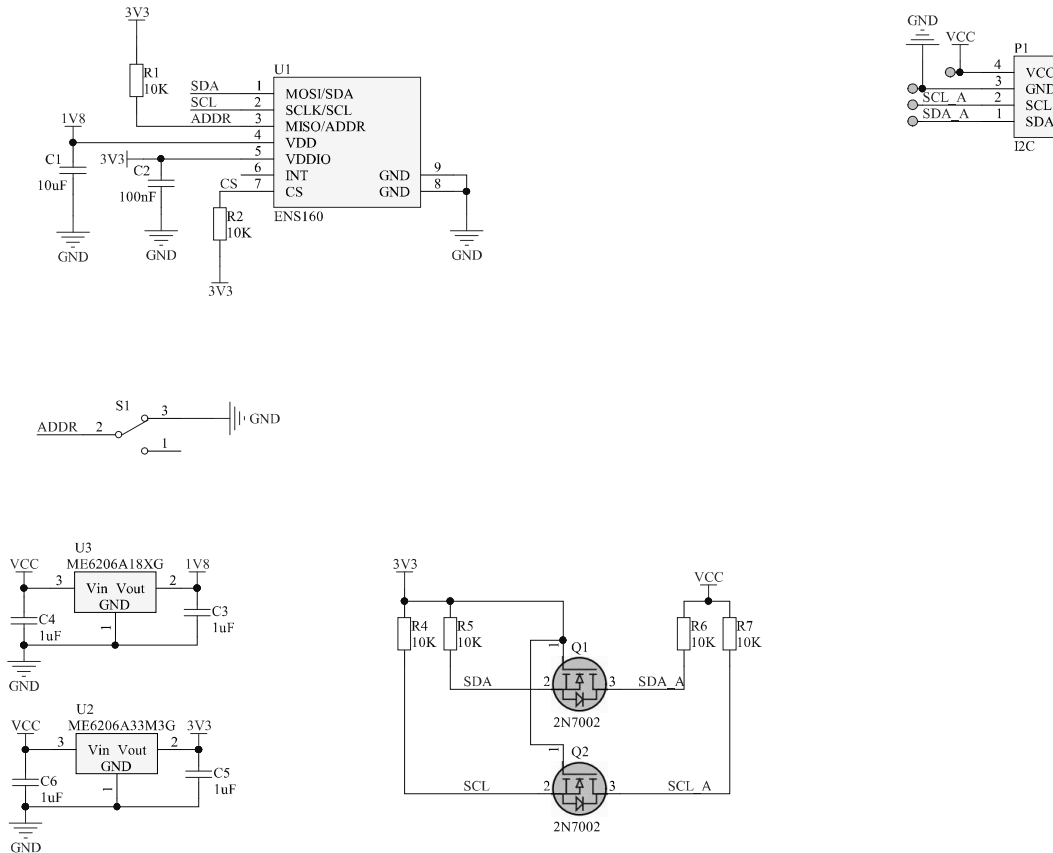


- Connection Diagram (with FireBeetle Board ESP32-E)

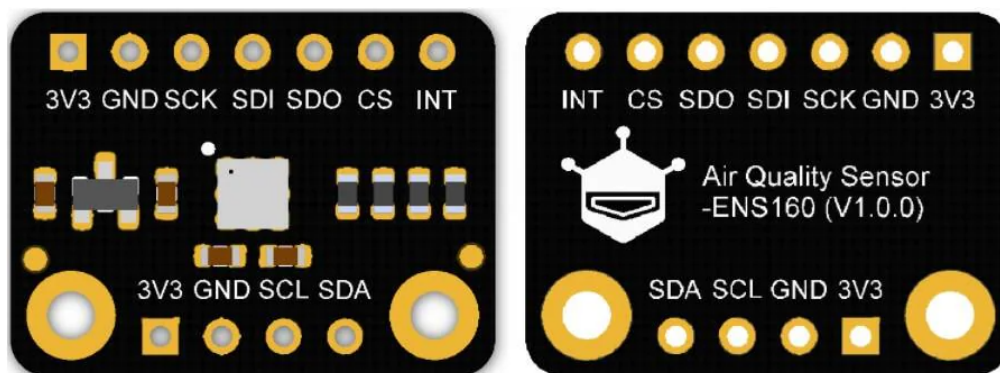


- Connection Diagram (with Raspberry Pi)

Schematic Diagram



Board Overview



Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/dfrobot/dfrobot-fermion-ens160-air-quality-sensor/>