SEN0405

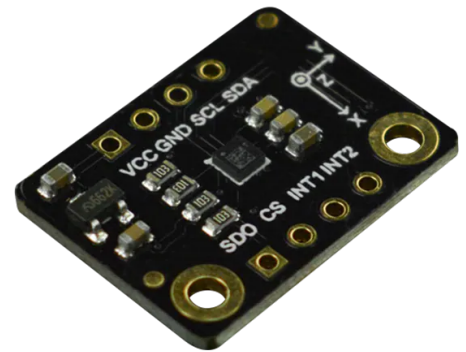## Fermion:LIS2DW12 Triple Axis Accelerometer Sensor

Product Overview

01-10-2023

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

Description

DFRobot Fermion:LIS2DW12 Triple Axis Accelerometer Sensor is a low-power, high-performance three-axis linear accelerometer. This LIS2DW12 sensor features 50nA low power consumption mode, 1.3mgRMS low noise, 32 FIFO, ±2g/±4g/±8g/±16g full scale, 16-bit data output, and 1.6KHz to 1.6KHz bandwidth. The sensor comes with two independent programmable interrupts and a dedicated internal engine that helps achieve motion and acceleration detection. Typical applications include free-fall, portrait/landscape detection, 6D/4D orientation detection, configurable single/double-tap recognition, stationary/motion detection, and wake-up for smart power saving.

Features

- LIS2DW12 triple-axis accelerometer
- Two independent programmable interrupts
- Dedicated internal engine for achieving various functions:
  - Free-fall
  - Portrait/landscape detection
  - 6D/4D orientation detection
  - Configurable single/double-tap recognition
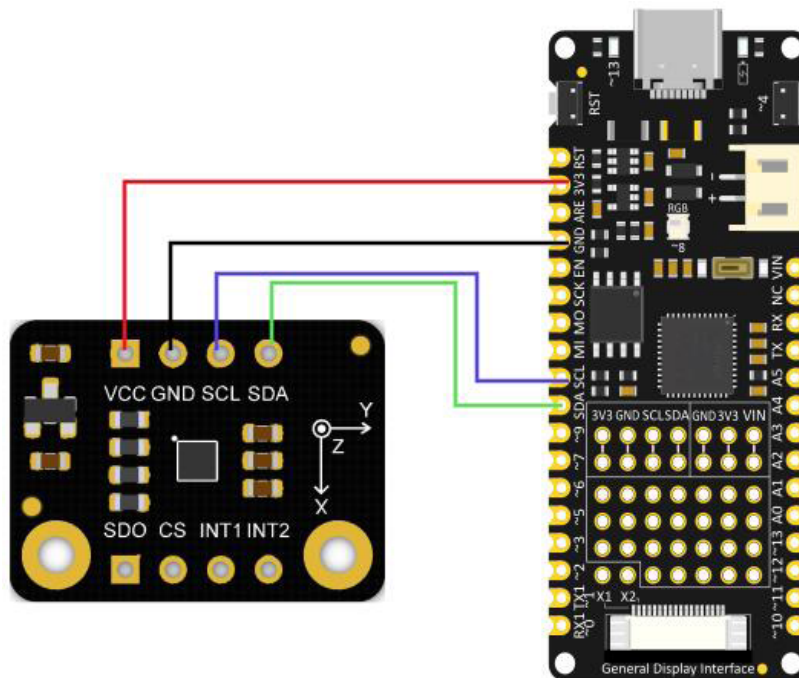 - Stationary/motion detection and motion wake-up for smart power saving

Specifications

- 3.3V operating voltage
- 50nA (low power consumption mode)/0.17mA (high-performance mode) operating current
- SPI/I^2C interface
- 0x19 (default address)/0x18 (optional pull down the SDO pin to select) I^2C address
- ±2g/±4g/±8g/±16g optional scale
- -40°C to 85°C operating temperature
- 16-bit data output

- 1.6Hz to 1600Hz frequency
- 1.3mg RMS (low power mode) ultra-low noise
- 32-level FIFO (first-in-first-out buffer zone)
- 10000g high shock survivability
- ECOPACK, RoHS, and "Green" compliant
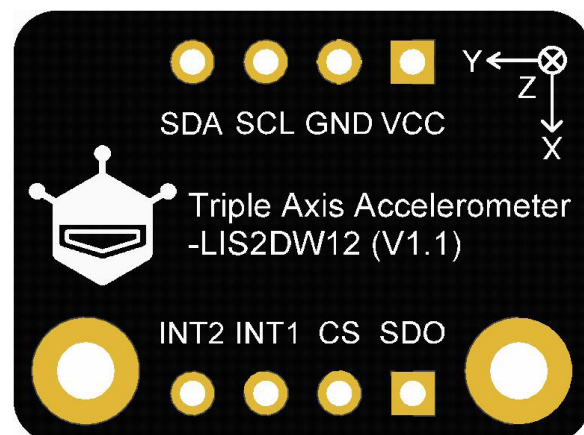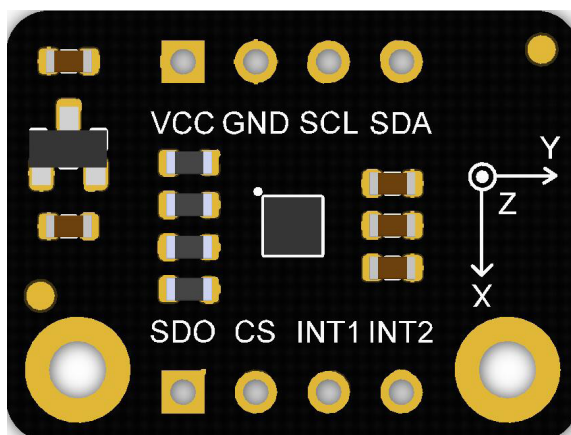- 15mm x 20mm/0.59inch x 0.79inch module size

Applications

- Self-balancing robot
- Free-fall detection
- Human action recognition
- Gesture recognition and gaming
- Tap/double-tap recognition
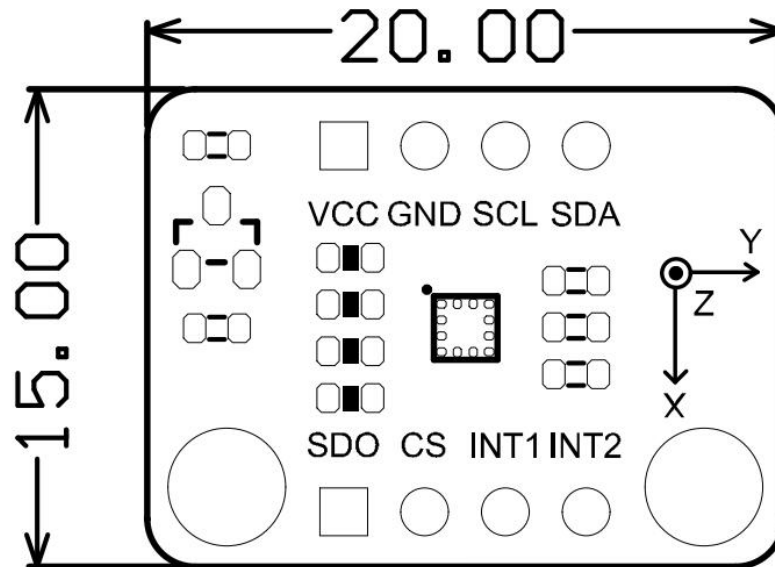- Motion detection for wearables

Connection Diagram

Board Overview

VCC GND SCL SDA

SDO CS INT1 INT2

SDA SCL GND VCC

Triple Axis Accelerometer
-LIS2DW12 (V1.1)

INT2 INT1 CS SDO

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

Dimension Diagram

Mouser Part Number

View Part

To learn more, visit
https://www.mouser.com/new/dfrobot/dfrobot-fermion-lis2dw12-accelerometer-sensor/