

# Gravity: I<sup>2</sup>C LIS2DW12 Triple Axis Accelerometer Sensor

SEN0409

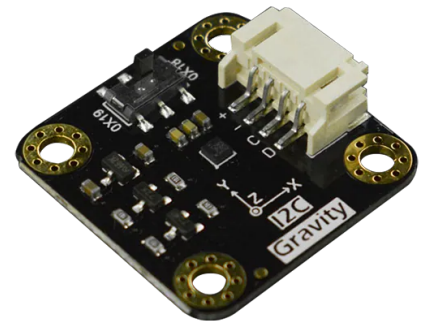
## Product Overview

03/14/2023

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

## Description

DFRobot Gravity: I<sup>2</sup>C LIS2DW12 Triple Axis Accelerometer Sensor is an ultra-low-power, high-performance three-axis linear accelerometer. This accelerometer sensor includes user-selectable full scales of  $\pm 2g/\pm 4g/\pm 8g/\pm 16g$ . The LIS2DW12 accelerometer sensor can measure accelerations with output data rates from 1.6Hz to 1600Hz frequency range.



The LIS2DW12 accelerometer sensor comes with two independent programmable interrupts and a dedicated engine. The engine can achieve multiple motion and acceleration detection, including free-fall portrait/landscape detection, 6D/4D orientation detection, configurable single/double-tap

The LIS2DW12 accelerometer sensor features 16-bit data output, easy-to-use gravity interface, 3.3V to 5V operating voltage, 10000g high shock survivability, sleep to wake-up function, 1.3mgRMS ultra-low noise, and 32-level First-In-First-Out (FIFO) buffer zone. This accelerometer is used in free fall detection, air mouse, single/double tap detection, self-balancing robot, gamepad, human action recognition, and single/double tap detection.

## Features

- User-selectable scale:
  - $\pm 2g/\pm 4g/\pm 8g/\pm 16g$
- 16-bit data output
- Easy-to-use gravity interface, no need to solder
- Change the I<sup>2</sup>C address by the toggle switch
- 32-level FIFO
- RoHS, ECOPACK, and Green compliant

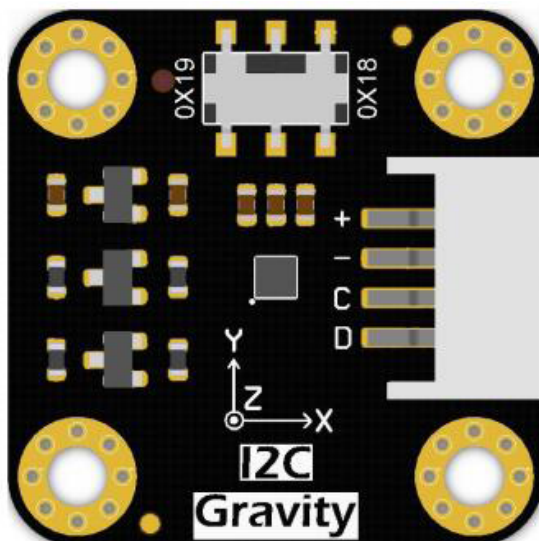
## Specifications

- 3.3V to 5V operating voltage range
- Operating current:
  - 8 $\mu$ A to 10 $\mu$ A (low-power and low-noise model)/0.12mA (high performance mode)
- 0x19 (default) / 0x18 (optional) I<sup>2</sup>C address
- -40°C to 85°C operating temperature
- 1.3mgRMS ultra-low noise
- 10000g high shock survivability
- 27mm x 27mm / 1.06" x 1.06" module size
- 3.1mm inner / 6mm outer module size

## Applications

- Free fall detection
- Aircraft
- Air mouse
- Gamepad
- Self-balancing robot
- Activity detection and recording
- Single/double tap detection
- Human action recognition
- Impact detection and recording

## Board Overview

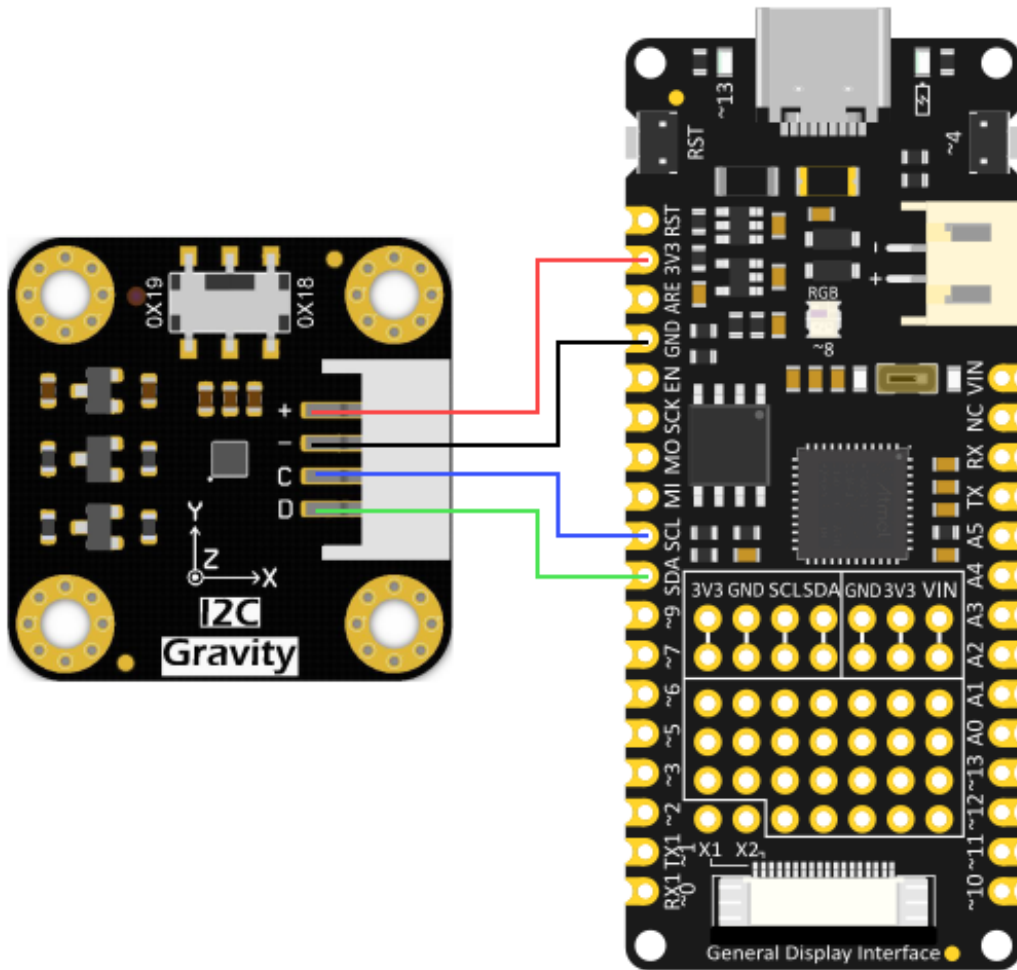


TOP

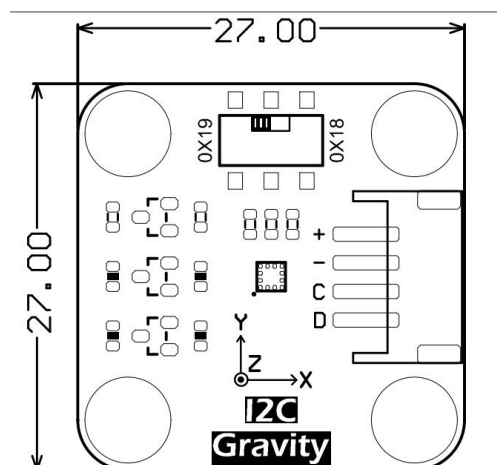


BOTTOM

## Connection Diagram



## Connection Diagram



## Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/dfrobot/dfrobot-gravity-i2c-lis2dw12-accelerometer/>