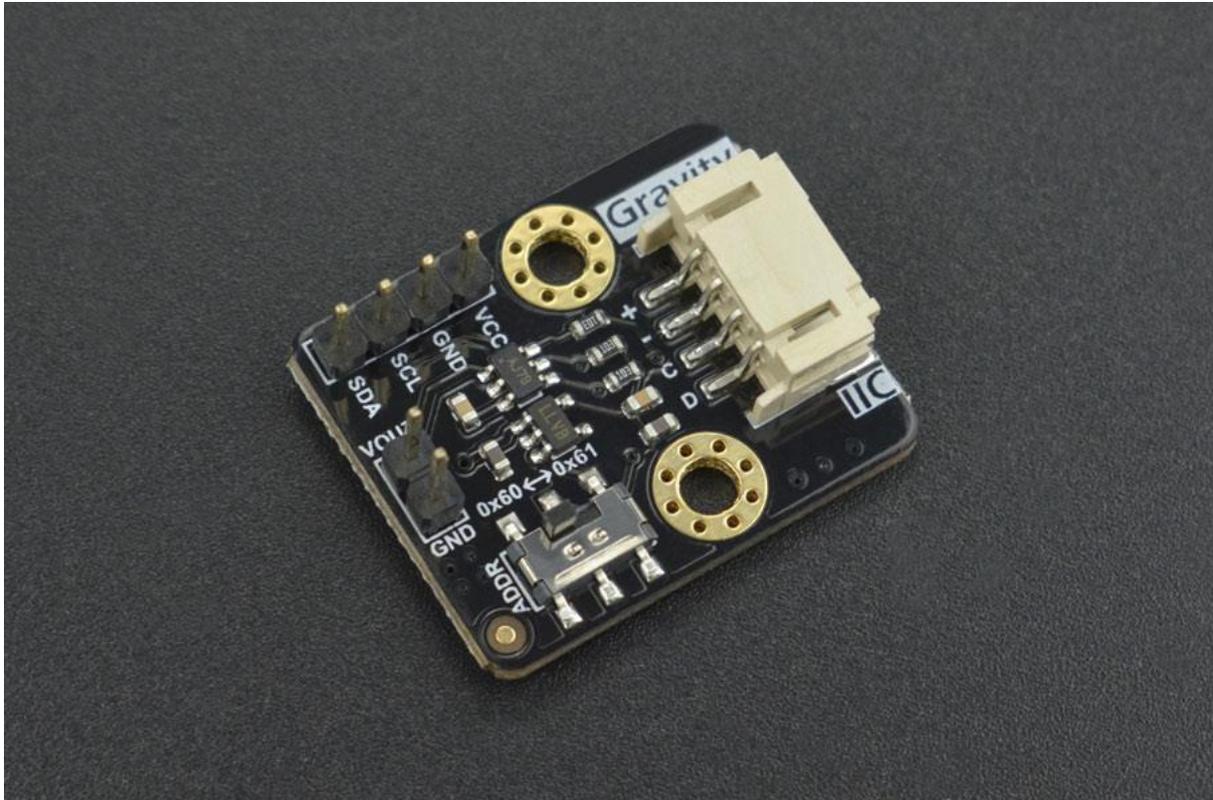




**DFROBOT**<sup>®</sup>  
DRIVE THE FUTURE

# Gravity: I2C 12-Bit DAC Module

SKU:DFR0552



## INTRODUCTION

DFRobot Gravity 12-Bit I2C DAC is a small and easy-to-use 12-bit digital-to-analog converter with EEPROM. It can accurately convert the digital value to corresponding analog voltage signal, which is useful in many creative projects and automatic control systems. Although an analog voltage signal can be generated by PWM with traditional controllers such as [Arduino](#) and [Raspberry Pi](#), such signal is ROUGH and NOT ACCURATE. To obtain a steady and nice analog voltage signal, the DAC is the best candidate. In addition to be applied in automatic control systems, the DAC module can be used to serve as a function generator to generate sine wave, triangular wave and even arbitrary waveform (we provide a library to generate low frequency sin and triangular wave with just a few parameters).

The module employs a 12-bit DAC MCP4725. It requires no external reference voltage (DAC reference is driven from VCC directly), supports 3.3V~5V wide input voltage and has a I2C address selection switch (two address 0x60 and 0x61 are available, which support maximum two modules in cascade). The EEPROM can retain the DAC input while power-off and resume the DAC output upon power-on.

## FEATURES

- 12-bit high accuracy DAC
- On-board EEPROM, retain DAC input while power-off



**DFROBOT**<sup>®</sup>  
DRIVE THE FUTURE

- Gravity I2C interface, plug and play. XH2.54 4P reserved for expansion
- Wide voltage input, compatible with 3.3V and 5V controllers
- Small size and easy to install

## *APPLICATIONS*

- Sensor Calibration
- Automatic Control Systems
- Function Generator

## *SPECIFICATION*

- Input Voltage (VCC): 3.3V~5.0V
- Output Voltage: 0 ~ VCC
- Resolution: 12-bit
- Working Current: <0.2 mA
- Interface: Gravity I2C (logic level: 0-3.3V)
- Dimension: 27.0mm\*22.0mm
- Weight: 13.8g