



## 3D Gesture Sensor Mini SKU: SEN0202



3D Gesture Sensor mini

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### Introduction

The DFRobot 3D gesture sensor is an interactive sensor that integrates 3D gesture recognition and motion tracking. This sensor can be used to detect clockwise/counterclockwise rotation and movement directions.

The gesture sensor is designed based on Microchip patent GestIC® technology, using electric near field sensing technology, including 3D gesture input sensing system and advanced 3D signal processing unit. The effective detection range is 0-10cm. This sensor can be applied to various interactive projects.

### Specification

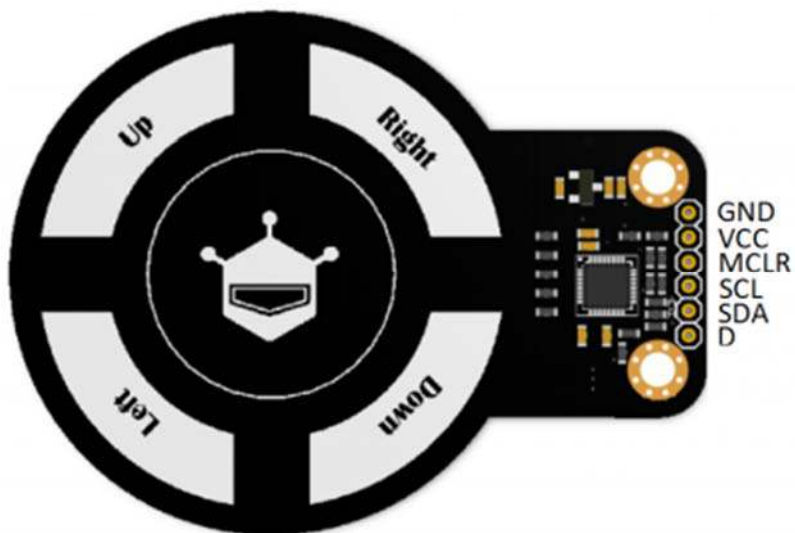
- Operating Voltage: 3.3 - 5V
- Interface Type: I2C
- I2C Address: 0x42

- Gesture Detection Range: 5cm
- Distance Induction Range: 10cm
- Dimensions : 72 x 54 mm / 2.83 x 2.12"
- Operating Temperature: - 20 °C ~ + 85 °C
- Spatial Resolution: 150 dpi

## Board Overview

No.	Label	Description
1	GND	GND
2	VCC	VCC(5V)
3	MCLR	Sensor Reset(Low Level On)
4	SCL	I2C clock signal
5	SDA	I2C data signal
6	D	Digital IO

Sensor address : 0X42

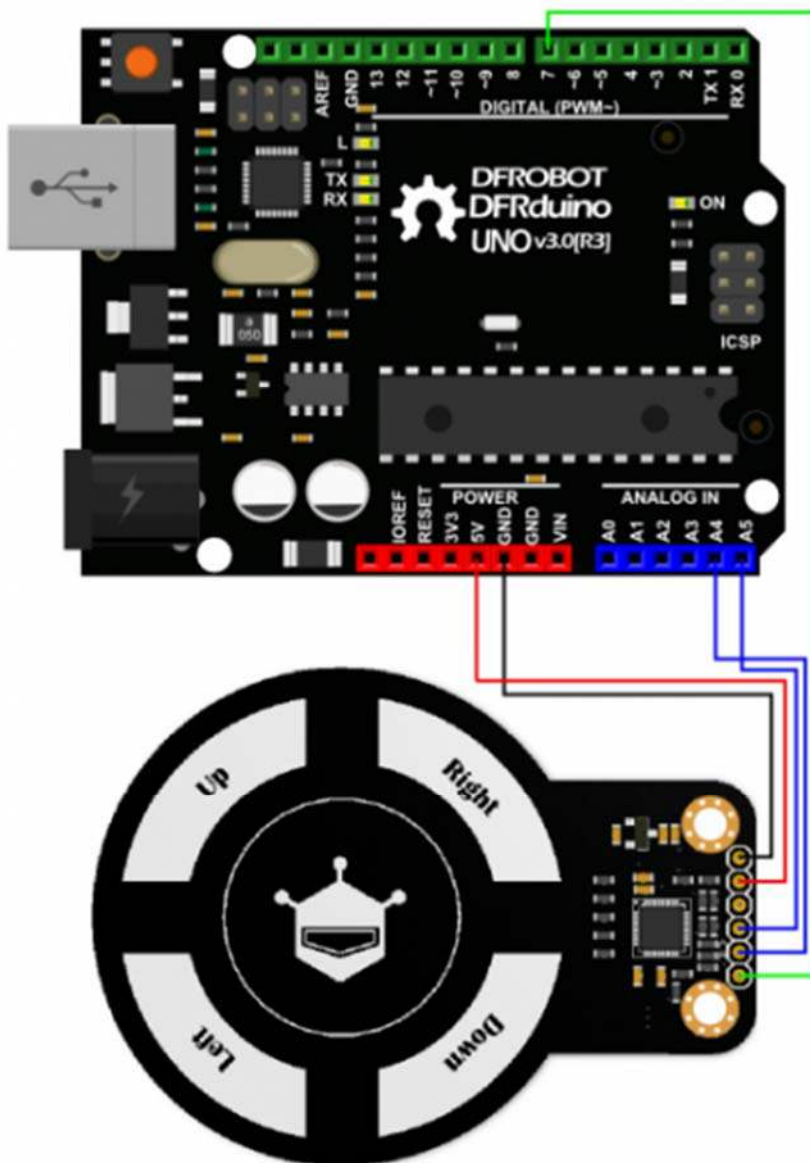


# Tutorial

## Requirements

- **Hardware**  
DFRduino UNO x 1  
3D Gesture Sensor Mini x1  
Dupont jumper wires
- **Software**  
Arduino IDE [Click to download Arduino IDE](https://www.arduino.cc/en/Main/Software)  
<https://www.arduino.cc/en/Main/Software>

## Connection Diagram



3D Gesture Sensor mini

## Sample Code

Click to download the library sample and library(Github). How to install libraries?

[https://github.com/DFRobot/DFRobot\\_Gesture](https://github.com/DFRobot/DFRobot_Gesture)

This code will recognize the direction of gestures: up, down, left, right, clockwise and counterclockwise

```
1 #include <DFRobot_Gesture.h>
2 #include <Wire.h>
3
4 int testPin= 7;
5 unsigned char cmd;
6
7 DFRobot_Gesture myGesture;
8
9 void setup()
10 {
11   Wire.begin();          // join i2c bus (address optional for master)
12   Serial.begin(9600);   // start serial for output
13   pinMode(testPin, INPUT);
14   Serial.write("3D Gesture sensor is now running...\r\n");
15 }
16
17 void loop()
18 {
19   if(digitalRead(testPin)==0)
20   {
21     myGesture.I2C1_MasterRead(md.buf,26,0x42); //The address is:0x42
22     cmd = myGesture.mgcProcMsg();           //process the message
23     if(cmd != GI_NOGESTURE )
24     {
```

```

25         switch(cmd)
26         {
27             case GI_FLICK_R:
28                 Serial.println("RIGHT");
29                 break;
30             case GI_FLICK_L:
31                 Serial.println("LEFT");
32                 break;
33             case GI_FLICK_D:
34                 Serial.println("DOWN");
35                 break;
36             case GI_FLICK_U:
37                 Serial.println("UP");
38                 break;
39             case GI_AIRWHEEL_CW://Clockwise in circles
40                 Serial.println("CW");
41                 break;
42             case GI_AIRWHEEL_CCW://Counterclockwise circles
43                 Serial.println("CCW");
44                 break;
45
46             default: break;
47         }
48     }
49 }
50 else {};
51 }

```

## Results

Use your hand to move up and down or clockwise and counterclockwise, the serial port will output the corresponding string.

## FAQ

For more questions or interesting projects, you can [Visit the forum](#)