



## Conductivity Switch Sensor SKU: SEN0223



## Introduction

The **Gravity Conductivity Sensor Switch module** can be used to detect if an object has electrical conductivity. Its maximum detection value is  $10M\Omega$ . It can detect not only coins, wires, metal and other good conductors, but also the human body, fruit, plants and other conductors.

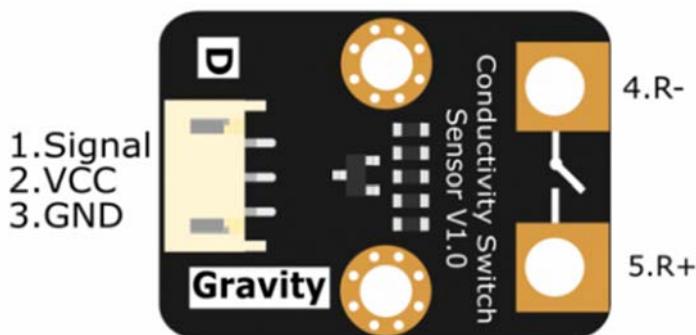
By touching the positive and negative terminals of the conductive switch, you can change the output state of the module. Use this to make interactive applications such as fruit pianos, musical wind chimes or interactive video game controllers so Super Mario using a bunch of bananas.

As a member of Gravity Sensor Family, the conductivity switch inherits all features of the Gravity Interface: plug and play, color identifiable pins, reverse polarity protection, etc. Using our Gravity IO Expansion Shield, you can connect more sensors, and have more fun!

# Specification

- Operating voltage: 3.3 ~ 5V
- Output type: digital signal
- Interface mode: PH2.0-3P
- Can identify the maximum resistance: 10M
- Board size: 30 \* 22mm
- Alligator clip length: 45cm
- Weight: 22g

## Board Overview



Num	Label	Description
1	Signal	Signal Output
2	VCC	Power In
3	GND	GND
4	R+	External Resistance +
5	R-	External Resistance -

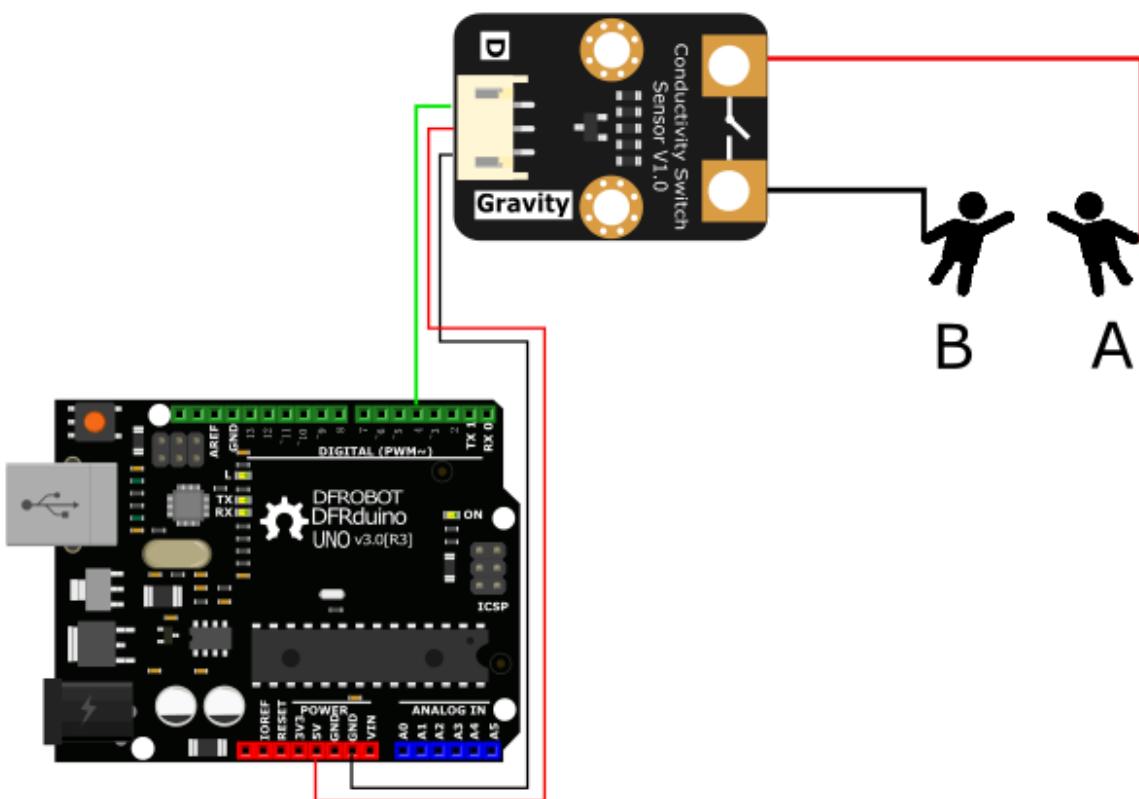
## Game Guide

In this section, we'll introduce a game named "Ice-Breaking". In this game, All participants needs to hold another people's hands until the LED ON.

# Requirements

- **Hardware**  
DFRduino UNOx 1  
Conductivity Switch Sensor x1  
M-M/F-M/F-F Jumper wires
- **Software**  
Arduino IDE, Click to Download Arduino IDE from Arduino® <https://www.arduino.cc/en/Main/Software%7C>

## Connection Diagram



## Sample Code

```
/*
 * Conductivity Switch Sensor
 *
 * This example Test there is no connection between the poles
 *
 * @author linfeng(Musk.lin@dfrobot.com)
 * @version V1.0
 * @date 2016-6-21
 *
 * GNU Lesser General Public License.
 * See <http://www.gnu.org/licenses/> for details.
 * All above must be included in any redistribution
 */
int ledPin = 13;
int inputPin = 4;

void setup() {
    Serial.begin(9600);
    pinMode(ledPin,OUTPUT);
    pinMode(inputPin,INPUT);
    digitalWrite(ledPin,HIGH);
    delay(2000);
}

void loop() {
    int pinValue=digitalRead(inputPin);
    if(pinValue==HIGH){
        digitalWrite(ledPin,HIGH);
    } else{
        digitalWrite(ledPin,LOW);
    }
}
```

```
    }  
    delay(100);  
}
```

## Expected Results

LED 13 will be light on, if you hold the others hands.

In the game section, you can replace led with relay to control light, pump or other actuator. ALSO, you can replace yourself with banana, apple, orange to make interesting project.

For any questions, advice or cool ideas to share, please visit the **DFRobot**