



## PIR Sensor

Version 1.0



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# 1 Introduction

PIR sensors (PIR Directional Infrared Radial Sensor D203S) allow you to sense motion. It can be used to detect any movement in the sensor's range. It is a small, inexpensive, low-power, easy to use sensor which doesn't easily wear out.

# 2 Features

- Dual compensating elements
- Excellent operating stability
- Narrow sense window for directional sensing
- Equipped with Fresnel lens
- Maximum detection distance adjustable between 3 m - 7 m
- Maximum detection angle of 110° solid angle

# 3 Specifications

- Operating input voltage: 5V to 20V
- PCB size: 32 mm x 24 mm
- Output signal level: high-3.3V, low-0V
- Delay time: adjustable (0.3 seconds to 18 seconds)
- Embargo time: 0.2 seconds
- Sensing range: less than 120 degrees angle, 7 meters

# 4 Hardware Connections

The module has 2 potentiometers on the board. The potentiometers are for delay time and distance potentiometer. The delay time represents the duration of the output high signal. The minimum delay time is 5s and the maximum delay time is 300s. This parameter can be adjusted using first potentiometer. The maximum detection range of this module is adjustable between 3 m and 7 m. It can be adjusted using second potentiometer. This module also features a two trigger modes: single trigger and repeatable trigger. The trigger mode can be configured using jumper. When the trigger mode jumper is connected to "L", the module is configured to use a single trigger. Setting the jumper in the "H" position configures the module to use a repeatable trigger. The default trigger is the repeatable one. Figure 1 below shows pin layout for PIR sensor.

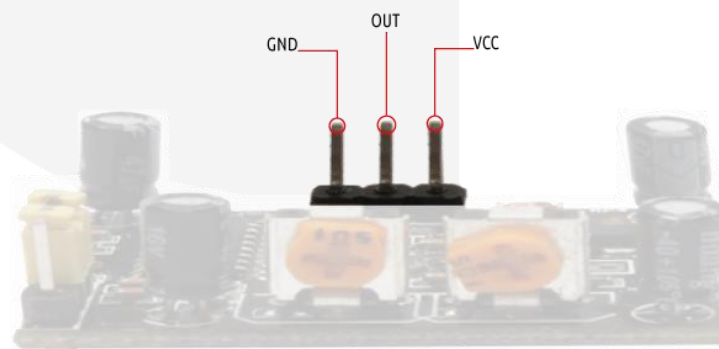


Figure 1 - PIR sensor board pin layout






## 5 Pseudo Code

```
boolean getMovementStatus(void)
{
    // read OUT pin status
    if(gpioReadPin(OUT) == 1)
        return true;        // movement detected
    else
        return false;      // no movement detected
}
```

## 6 Reference

D203S PIR Sensor Datasheet: <http://moderndevic.com/wp-content/uploads/2010/11/330600005.pdf>





Phi Robotics Research Pvt. Ltd.

[www.phi-robotics.com](http://www.phi-robotics.com)