SEED TECHNOLOGY INC (SEEEDUINO)
Grove - PIR Motion Sensor
Model: SEN32357P

Introduction

This is a simple to use PIR motion sensor with Grove compatible interface. Simply connect it to Grove - Base shield and program it, when anyone moves in it's detecting range, the sensor outputs HIGH on its SIG pin.

The detecting range and respons speed can be adjusted by 2 potentiometers soldered on its circuit board, The response speed is from 0.3s - 25s, and max 6 meters of detecting range.

Features

- Grove compatible interface
- Wide supply voltage range: 3V–5V
- 2.0cm x 4.0cm Grove module
- Detecting Angle: 120 degree
- Detecting Distance: max 6m
- Adjustable detecting distance and holding time

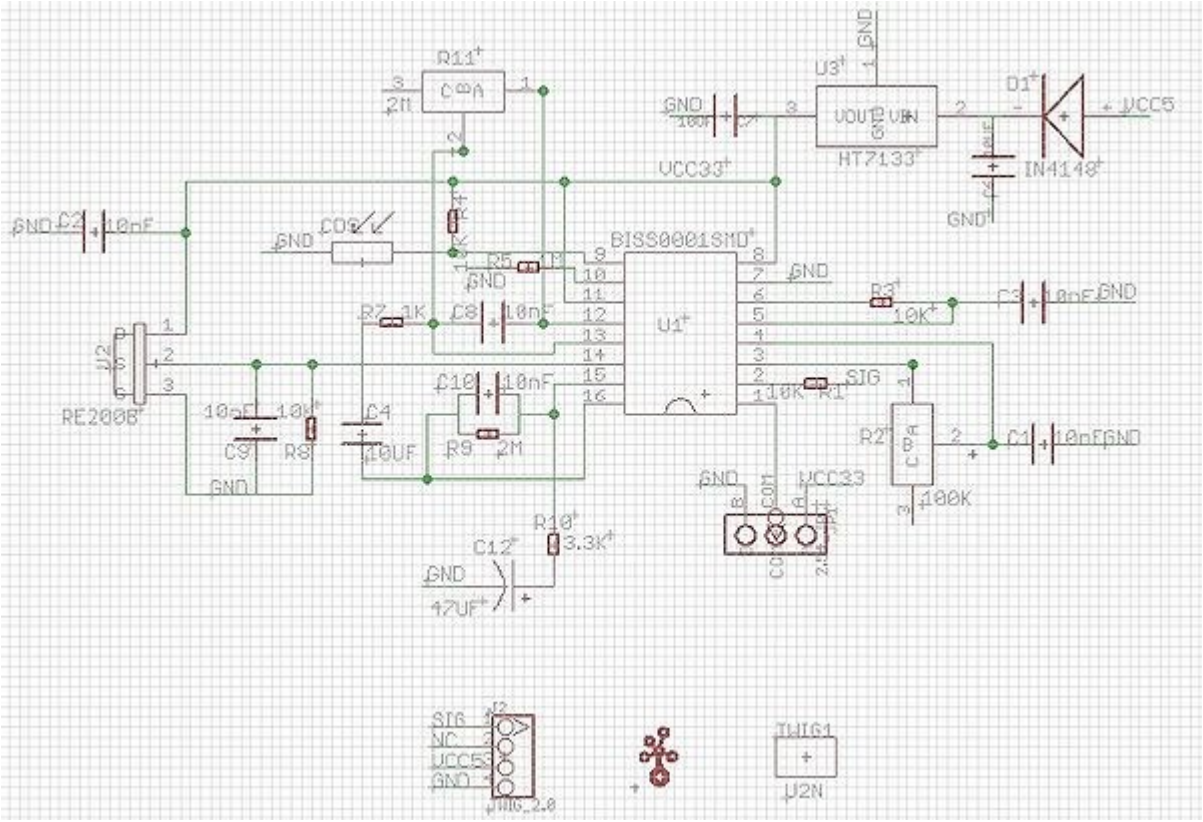
Application Ideas

- Motion sensor
- Thief-guarding System
- Switch
- Industrial automation

Cautions

The first time you use this module, you should regulate the two potentiometer which are used to adjust the detecting distance and the holding time. And you also need to regulate the switch beside to the Grove connector to set the module in a retriggerable situation(H position) or an un-retriggerable situation(L position)

Schematic



Specification

May include key specification and other specifications.

Key Specification

Items	Min
PCB Size	2.0cm*4.0cm
Interface	2.0mm pitch pin header
IO Structure	SIG,VCC,GND,NC
ROHS	YES

Electronic Characterstics

Items	Conditions	Min	Norm	Max	Unit
VCC	-	3	-	5	Volts
Measuring Current Supply	VCC=3V	-	-	100	uA
	VCC=5V	-	-	150	uA
Measuring Range	-	0.1	-	6	m
Holding Time	-	1	-	25	S
Operating Temperature	-	-20	-	70	°C

Storge Temperature	-	-35	-	80	°C
Working Wave Length	-	7	-	14	um
Detecting Angle	-	-	120	-	degree

Pin definition and Rating

Mechanic Dimensions

Usage

Hardware Installation

Connect this module to seeeduino using Grove Base Board through port 2. Then you can use it to detect the motion of people. When someone moves in its detecting range, it outputs High through its SIG pin, else it outputs LOW. Please note that the detecting distance can be adjusted by rotate the distance potentiometer. When you rotate the distance potentiometer clockwise, the detecting distance decreases from 6 meters to only several centimeters. And when you rotate it counter-clockwise to the end, the module will be too sensitive to be triggered by the atmosphere even there is no people moving before it. The holding time can also be adjusted by the Delay_time potentiometer, the value is about from 25s to 1s when you rotate it clockwise. The module can also be set as retriggerable or un- retriggerable. When the switch is in the H position, the module is retriggerable and is unretrigerred when the switch is in L position.

Programming

The code below demonstrate a simple instance. When someone moves before the sensor, the led on the arduino board light and "1" is printed on the serial monitor.

```
const int ledPin=13;//The led to indicate the motion

void setup(){
Serial.begin(9600);
pinMode(2, INPUT);//Use pin 2 to receive the signal outputted by the module
pinMode(ledPin, OUTPUT);
}

void loop() {
int sensorValue = digitalRead(2);
if(sensorValue==1)
digitalWrite(ledPin,HIGH);
else
digitalWrite(ledPin,LOW);
Serial.println(sensorValue, DEC);//Print the state of the signal through the serial
monitor.
}
```

Bill of Materials (BOM) /parts list

Part	Value	Device	Package	Notes
C1	10nF	C0603	0603	
C2	10nF	C0603	0603	
C3	10nF	C0603	0603	
C4	10UF	C0805	0805	
C6	10UF	C0805	0805	
C7	10UF	C0805	0805	
C8	10nF	C0603	0603	
C9	10nF	C0603	0603	

C10	10nF	C0603	0603	
C12	47UF	C_TAN1206	C_TAN1206	
D1	IN4148	DIODE1206	DIODE1206	
J2	GROVE_2.0	GROVE_2.0	2.0_1X4	
JP1	2.54_JPC	2.54_JPC	2.54_JP_C	
R1	10K	R0603	0603	
R2	100K	R_REG	R_REG	3362 adjustable resistor 100K
R3	10K	R0603	0603	
R4	10K	R0603	0603	
R5	1M	R0603	0603	
R7	1K	R0603	0603	
R8	10K	R0603	0603	
R9	2M	R0603	0603	
R10	3.3K	R0603	0603	
R11	2M	R_REG	R_REG	3362 adjustable resistor 2M
U1	BISS0001SMD	BISS0001SMD	SOP16	
U2	RE200B	RE200B	RE200B	RE200B pyroelectrical sensor
U3	HT7133	HT7133	SOT89	HT7133 stabilivolt

FAQ

Please list your question here:

Support

If you have questions or other better design ideas, you can go to our forum or wish to discuss.

Version Tracker

Revision	Descriptions	Release
v0.9b	Initial public release	date

Bug Tracker

Bug Tracker is the place you can publish any bugs you think you might have found during use. Please write down what you have to say, your answers will help us improve our products.

Additional Idea

The Additional Idea is the place to write your project ideas about this product, or other usages you've found. Or you can write them on Projects page.

Resources

- File:Twig - PIR motion sensor v0.9b.zip
- File:Twig - BISS0001.pdf
- File:Fresnel lens 8120.pdf

How to buy

Grove - PIR Motion Sensor now is under NPI, please stay tuned.

See Also

Other related products and resources.

Licensing