





PIR Motion Sensor (JST)

SEN-13285 ROHS 

★★★★☆ 12



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Description: This is a simple to use motion sensor. Power it up and wait 1-2 seconds for the sensor to get a snapshot of the still room. If anything moves after that period, the ‘alarm’ pin will go low.

This unit works great from 5 to 12V (datasheet shows 12V). You can also install a jumper wire past the 5V regulator on board to make this unit work at 3.3V. Sensor uses 1.6mA@3.3V.

The alarm pin is an open collector meaning you will need a pull up resistor on the alarm pin. The open drain setup allows multiple motion sensors to be connected on a single input pin. If any of the motion sensors go off, the input pin will be pulled low.

We’ve finally updated the connector! Gone is the old “odd” connector, now you will find a common 3-pin JST! This makes the PIR Sensor much more accessible for whatever your project may need. Red = Power, White = Ground, and Black = Alarm.

Simple Sketches - PIR Motion Sensor

Documents:

- Datasheet
- Hookup Guide

\$9.95	
<div>1</div>	quantity
<div><div></div><div></div><div></div><div></div><div></div></div>	<div>250+ in stock</div>
\$9.95	1+ units
\$9.45	25+ units
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👉 SPARKFUN RECOMMENDED
SparkFun Logomatic v2 - Serial SD Datalogger (FAT32)
🕒 WIG-12772
\$54.95
★★★★☆ 7



👉 SPARKFUN RECOMMENDED
SparkFun Sensor Kit
🕒 DEV-13754
\$129.95



👉 SPARKFUN RECOMMENDED
SparkFun RGB and Gesture Sensor - APDS-9960
🕒 SEN-12787
\$14.95
★★★★★ 2



👉 SPARKFUN RECOMMENDED
Web of Things Kit
🕒 KIT-13832
\$99.95
★★★★☆ 5

COMMENTS 10 **REVIEWS ★★★★★ 12** TUTORIALS 1

Customer Reviews

★★★★☆ 2.7 out of 5

Based on 12 ratings:

5 star	0
4 star	4
3 star	3
2 star	2
1 star	3

1 of 1 found this helpful:

★★★★☆ Super fun
about a year ago by Member #423551 ✓ verified purchaser

This sensor works well, is a good value and was delivered quickly. I used it to trigger an Arduino with a sound shield. It works with the Arduino very well and although other people have had issues with it, I had none. I used the Arduino pinMode(INPUT_PULLUP) that uses the internal 20K pull up resistor so you do not need any external resistor. The project I used this for was a pumpkin that made sounds as people approached. It was a hit.

3 of 4 found this helpful:

★★★★☆ Be sure to check out how it is wired
last year by SDTacoma ✓ verified purchaser


Be careful, the wire colors vary. I bought two from Sparkfun and on one of them the Alarm wire color is white and on the other one it is black.

<http://i.imgur.com/i1OJext.jpg>

👉 Single T replied on November 23, 2015:
Our Tech Team has only seen this happen one other time. If you would like an exchange, please let us know. We'll be happy to help you. Thanks

2 of 3 found this helpful:

★ ★ ☆ ☆ ☆ Not sure what I think of this

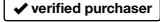
about a year ago by aglucas 

Well maybe I just don't know how to use this thing. But it seems to be a real pain to use. First off is the black wire is the "alarm". Maybe because it is an open collector that is a reasonable color choice. I forgot at least once that it was an open collector and had to rewire. Once I got it detecting it did fine signalling someone entered the room. But I could not figure out a way to find out once someone entered if they left. I have a complicated filter and state machine in code to try and remove the invalid blurps. It looks like after so much inactive time it sends a pulse on the alarm.

I think I will give up and search for something else, maybe buy some motion activated night lights and use them in my project.

3 of 8 found this helpful:

★ ☆ ☆ ☆ ☆ Terrible PIR sensor, avoid

about a year ago by Zackees 

(1) Signal wire is black, ground wire is white.

These should be reversed. I might have killed two of my sensors because the wire colors don't match up to expectations.

(2) The manual says that there should be a 10k pullup resistor on the arduino, why can't this be built into the electronic itself? The power rail is right there.

There are other PIR sensors on the market. Stay away from this one.

👤 Single T replied on June 29, 2015:

Hi, Pin outs for this sensor are clearly listed in the product description. (Red = Power, White = Ground, and Black = Alarm.) Sorry that this color pattern is not satisfying for you. As for the pull up resistor, some processors have built in pullup resistors. So leaving the sensor bare allows for a wider range of applications.

0 of 1 found this helpful:

★ ★ ★ ★ ☆ Nice Product!

about 9 months ago by gjcamacho 

Working good so far! I'll let you know how it goes... ;-)

★ ☆ ☆ ☆ ☆ Poor sensitivity, sparse data

about 3 months ago by Member #1250 

I bought 3 of these to replace another sensor with a similar form-factor. The original sensor had no trouble sensing a moving person 4 meters away, but these don't. They work if I wave my hand from about 2 meters, which is not acceptable for my application. I'm running at 12 V.

Also, there is almost no data available. The SE-10 datasheet looks mostly like a copy of the data for the raw sensor. Where's the electrical (output Io voltage) and optical specs (sense angle)?

👤 ROB-24601 replied on September 26, 2016:

Sorry these didn't work to replace your other device. Let us know if you would like to send those back for a return. <https://www.sparkfun.com/returns>

★ ★ ★ ★ ☆ I am still trying to get it to work

about 2 years ago by Member #365470 

i had it hooked up to an LED and it was flashing like crazy whether there was motion or not. Then I found this site http://bildr.org/2011/06/pir_arduino/ and added the resistor and the code from the site. It still didn't work, there was no output on the screen saying "motion detected" I am using an Arduino uno, any ideas as to what I'm doing wrong? Thanks in advance. I've loved all the other products I've ordered from you including the Drum kit Kit ai - I got that working without any problem.

👤 Single T replied on May 8, 2015:

Hi, It sounds like you should get in touch with our Technical Support team. They'll be happy to try to help you get up and running. Tech support @ sparkfun .com

★ ★ ★ ☆ ☆

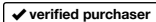
about 11 months ago by KingArt 

Thanks for reminding me that it has awkward color coding for the cables. It is something that definitely can be/should be fixed for a sensor priced at \$10 dollars. The cable should not be advertised as a new feature until the color coding is fixed.

I bought two sensors. The sensors work but it can be more consistent and sensitive. Sometimes it would recognize a hand quickly, sometimes its totally ignored. I am not sure if its picking up the reflection of IR in the room so when a hand is placed closely to the front of the sensor, it still would not register a "change".

0 of 4 found this helpful:

★ ★ ★ ☆ ☆ Cheap, but pretty useless.

about 6 months ago by Member #808220 

Does what it needs to.

0 of 1 found this helpful:

★ ★ ☆ ☆ ☆

about 11 months ago by Member #756641 ✓ verified purchaser

This motion sensor's detection distance is horrible. I connected it to my Arduino and it only senses it if I'm touching it or like 1 millimeter away...

👤 Single T replied on January 25, 2016:

It sounds like you have a bad unit, or a connection issue. Please contact our support team and they'll be happy to help you out.

0 of 1 found this helpful:

★ ☆ ☆ ☆ ☆ **Have not been able to make work**

about 5 months ago by Member #641171 ✓ verified purchaser

Like other users have said mine came wired with the red for alarm and the black for power. This is not like the directions say it should be. Also no matter how hard I have tried I can not get it to work for my Raspberry Pi 2. Good luck to anyone else who tries this.

👤 ROB-24601 replied on July 11, 2016:

Hmm, interfacing this with an RPi2 should be fairly straightforward. I would suggest contacting our tech support team, they should be able to help you out.

★ ★ ★ ★ ☆ **A learning experience...**

about 3 months ago by Member #498257 ✓ verified purchaser

I wired this up with an Arduino Micro. There are a lot of example programs using timers and delays. I wanted to make this interrupt driven. I had had to resolve a few self-induced logic errors in my code. Eventually, it worked. I've discovered the PIR is a little unstable at 5 volts, but works really well with 9 volts. It also seems to have a greater range at the higher voltage. I'll try 12 volts next.
