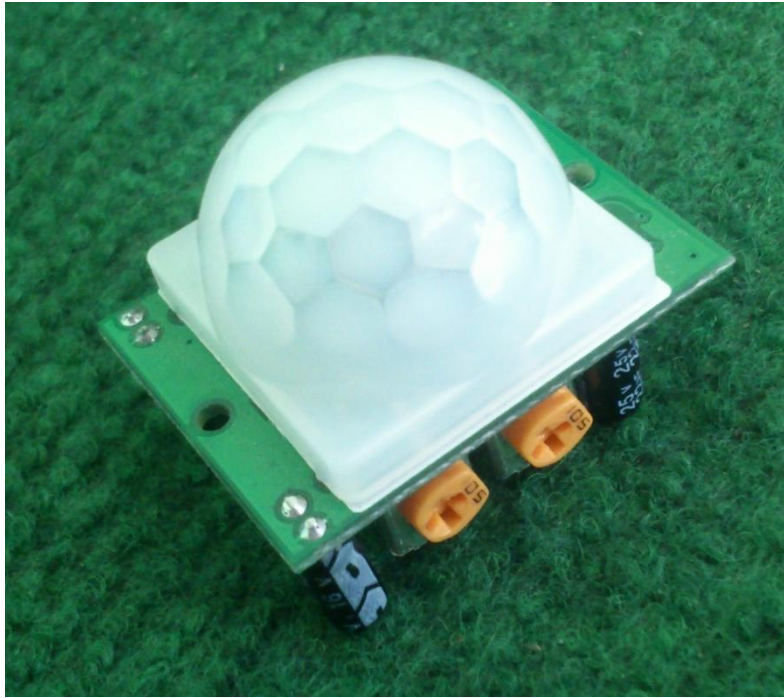


PIR MOTION DETECTION MODULE



Description

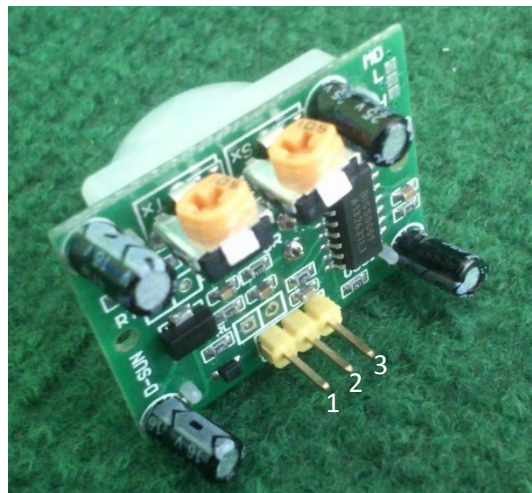
The Passive Infrared (PIR) motion detection module is an easy tool for detecting motion. The module is an electronic semiconductor type sensor that measures infrared (IR) light radiating from objects in its field of view. It uses a BISS0001 integrated circuit for motion detection. Thus, whenever there is a motion by a heat-radiating object under its field of view, this module will produce a trigger output.

Passive means this device does not emit or radiate any energy for detection. Every object above absolute zero emits heat, this heat signature is in Infrared wavelength so that energy cannot be seen by naked eye, but they can be measured by infrared devices. The sensor is enclosed in Fresnel Lenses, which create a wide angle of detection and also used for noise filtering. The potentiometers are used to adjust the amount of time the sensor remains “on” and “off” after being triggered.

Specifications

- Use BISS0001 signal processing IC
- Voltage: 5V – 20V
- Power Consumption: 65mA
- TTL output: 3.3V, 0V
- Delay time: adjustable (0.3s to 10min)
- Lock time: 0.2s
- Trigger methods: L – disable repeat trigger, H enable repeat trigger
- Non-repeatable trigger/ delay mode (set to LOW): the sensor will turn to low TTL after the delay, even the sensing object is still in range.
- Repeatable trigger (set to HIGH): the sensor will not turn to low if the object still stays in the sensing range in the delay time.
- Sensing range: less than 120 degree, within 7 meters
- Temperature: – 15 ~ +70
- Dimension: 32x24 mm, distance between screw 28mm, M2, Lens dimension in diameter: 23mm

Pin Configuration



1. VCC: 5V-20V DC

Sample Sketch

```
void setup(){
  Serial.begin(9600);
  pinMode(2,INPUT);
}

void loop(){
  if(digitalRead(2) == HIGH)
    Serial.println("motion detected!");
  else
    Serial.println(" ");
  delay(200);
}
```

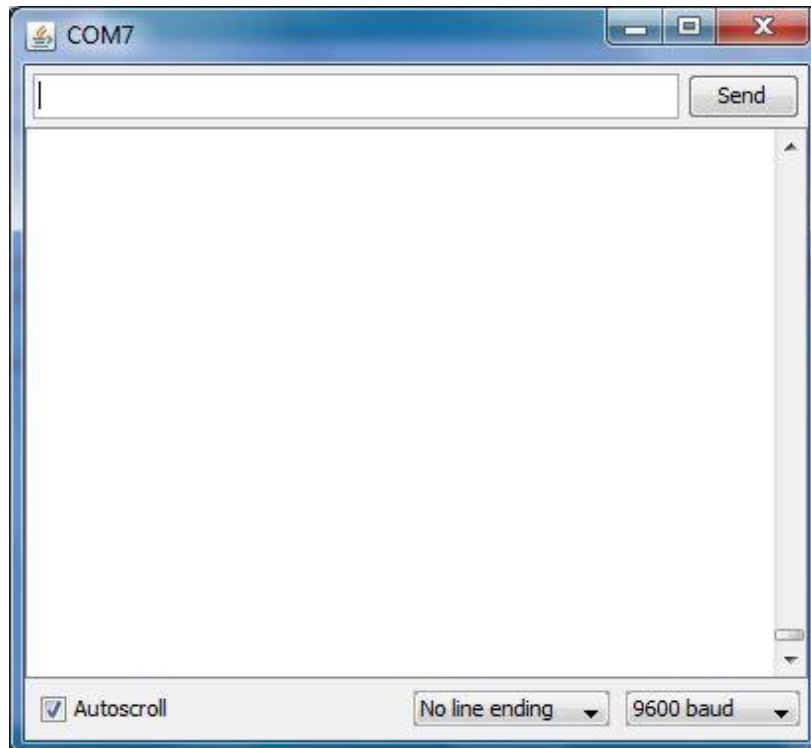
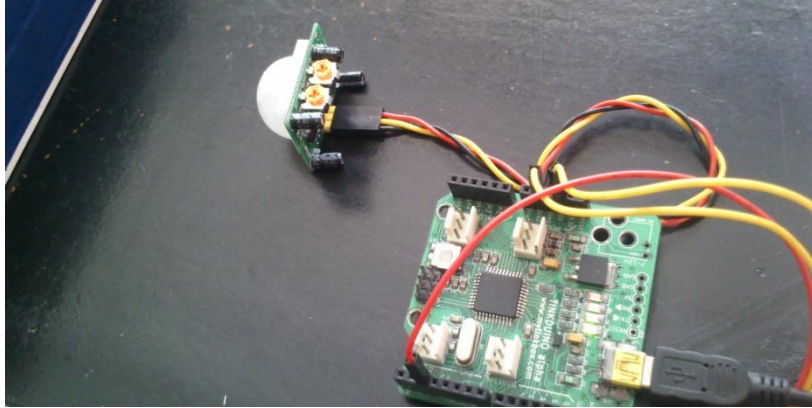
How to test

The components to be used are:

- Microcontroller (any compatible arduino)
 - PIR motion detection module
 - Pin M-M connectors
 - Pin F-F connectors
 - Breadboard
 - USB cable
1. Connect the components based on the figure shown in the wiring diagram using M-M and F-F pin connectors. VCC pin is connected to the 5V power supply, GND pin is connected to the GND and OUT pin is connected to the digital I/O pins. Pin number will be based on the actual program code.
 2. After hardware connection, insert the sample sketch into the Arduino IDE.
 3. Using a USB cable, connect the ports from the microcontroller to the computer.
 4. Upload the program.
 5. See the results in the serial monitor.

Testing results

The serial monitor shows nothing when the module was in standby.



The serial monitor shows that motion is detected when a hand was placed near the module.

