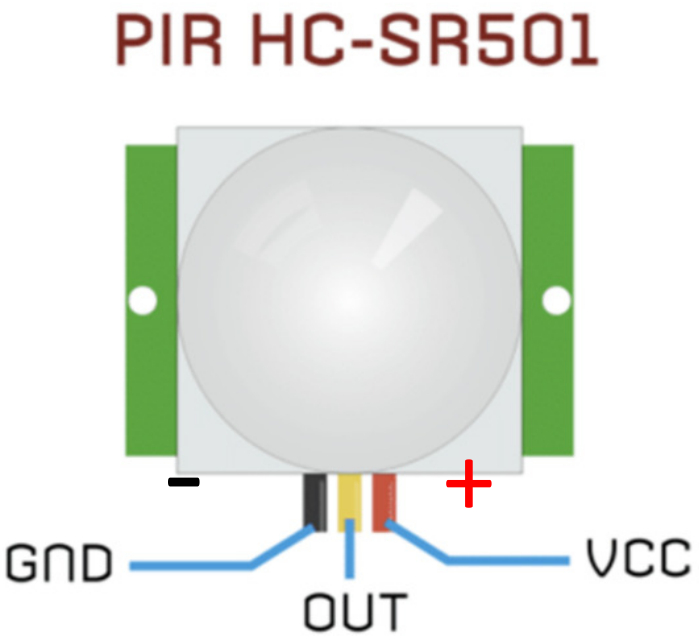
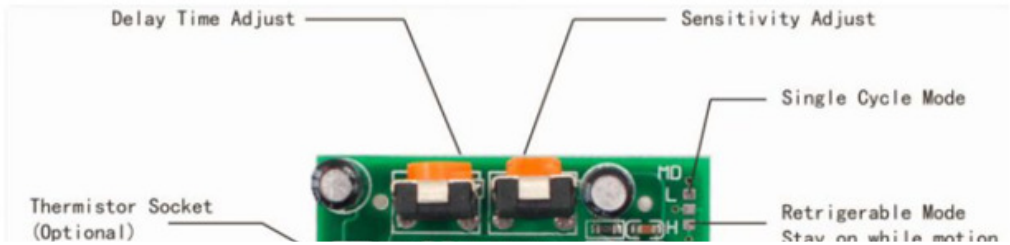
PIR – PASSIVE INFRA-RED MOTION SENSOR

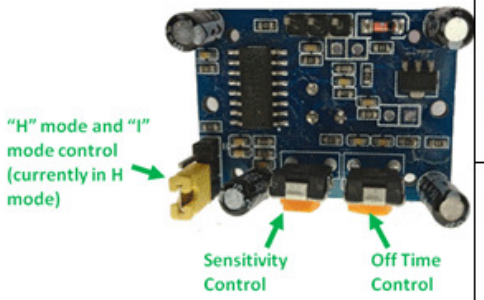


Some technical information



Pin or Control	Function
Delay Time Adjust	Sets how long the output remains high after detecting motion.... Anywhere from 5 seconds to 5 minutes.
Sensitivity Adjust	Sets the detection range.... from 3 meters to 7 meters
Ground pin	Ground input
Digital Output Pin	Low when no motion is detected. High when motion is detected. High is 3.3V
Power Pin	4.5 to 20 VDC Supply input

H Setting – Sensor will go high when a person is detected, and will stay high for a set duration. After which it will go low



I Setting – Sensor will go high when a person is detected, and will stay high for as long as the person stays within its sensing range

Sensitivity Control

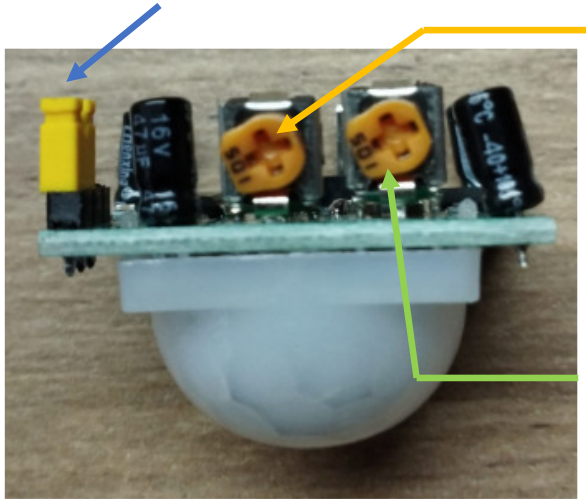
Counter-Clockwise or Left	Clockwise or Right
Increases Sensitivity. Fully left and the range will be approximately 7 meters.	Decreases Sensitivity. Fully right and the rang will be approximately 3 meters.

Off time Control

Counter-Clockwise or Left	Clockwise or Right
Decreases Delay Time. Fully left and the delay will be approximately 5 seconds.	Increases Delay Time. Fully right and the delay will be approximately 5 minutes.

Tweaking the HCSR501 PIR SENSOR

Reference Point

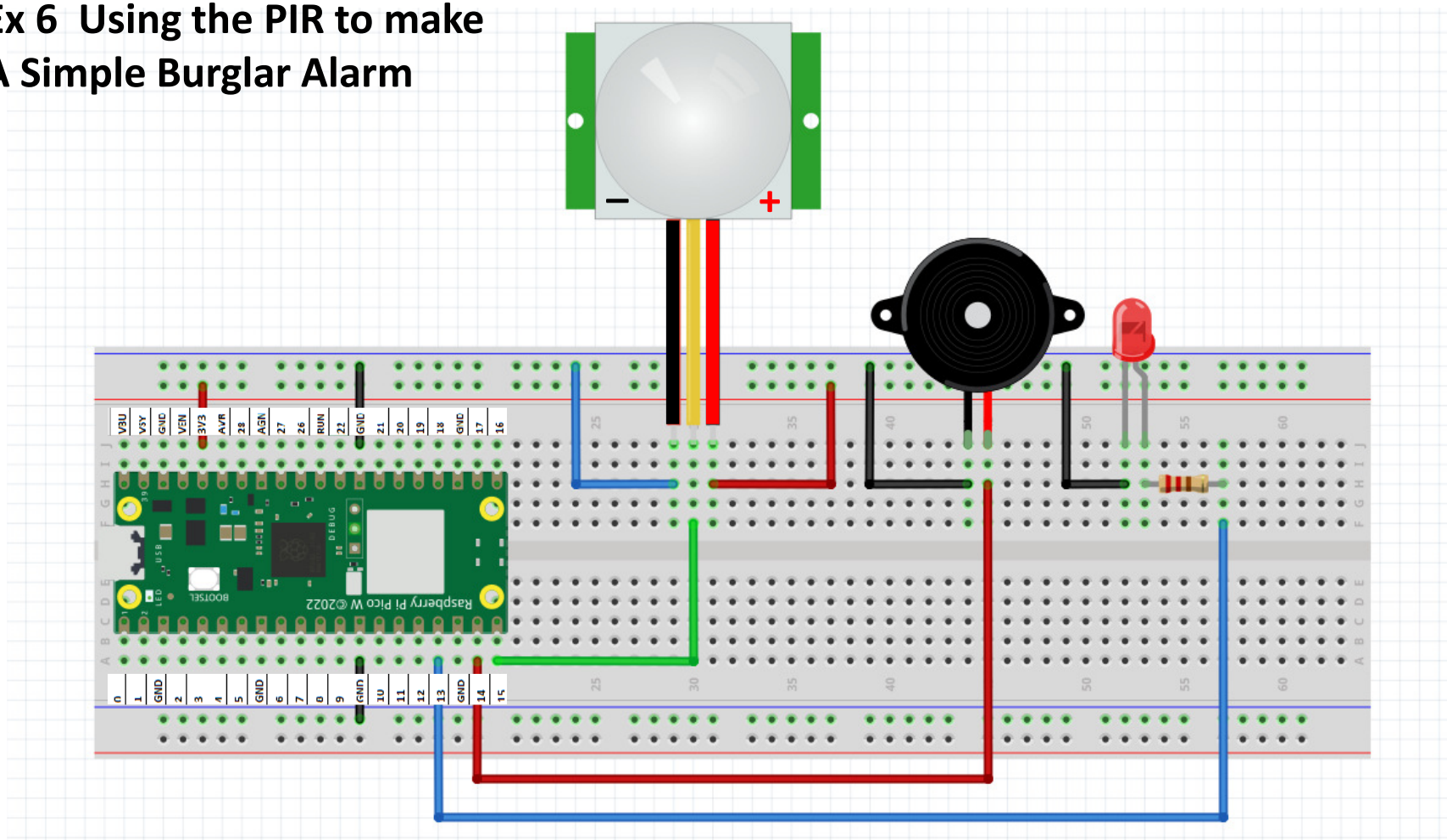


Sensitivity Control – Distance at which
This sensor can pick up changes / movement
This setting, which have the control in the most anti-clockwise position can detect movement up to 7 meters away. Whereas the most clock wise position will detect up to 3 meters.
Set it to be too sensitive it will pick up unnecessary noise.

Time Delay
Most anti-clockwise position will give the sensor a delay of 5 seconds before it can be activated again. Most clockwise position 5 minutes.

Use a Phillips screw driver. Be Gentle

Ex 6 Using the PIR to make A Simple Burglar Alarm



The PIR sensor makes use of the Pin function of the machine libarary
Just like the LEDs , Buzzers and Button.

In fact we can say that a PIR is like a button (a contactless button)

In our diagram the PIR is connected to Pin 15. This is how we set it up in code

```
from machine import Pin
sensor=Pin(15,Pin.IN)
```

To check if the PIR has detected movement, the code is like this

```
if sensor.value() == 1:
```

Ex 6 Complete the follow burglar alarm code on your own.

Requirement: When sensor is detected, light up the red LED and sound the buzzer

You will need the while True loop, if sensor.value() == 1:

```
from machine import Pin
sensor=Pin(15,Pin.IN)

…….
…….

while True:
    ……
    ……
    ……
```

Save code as ex6.py and RUN