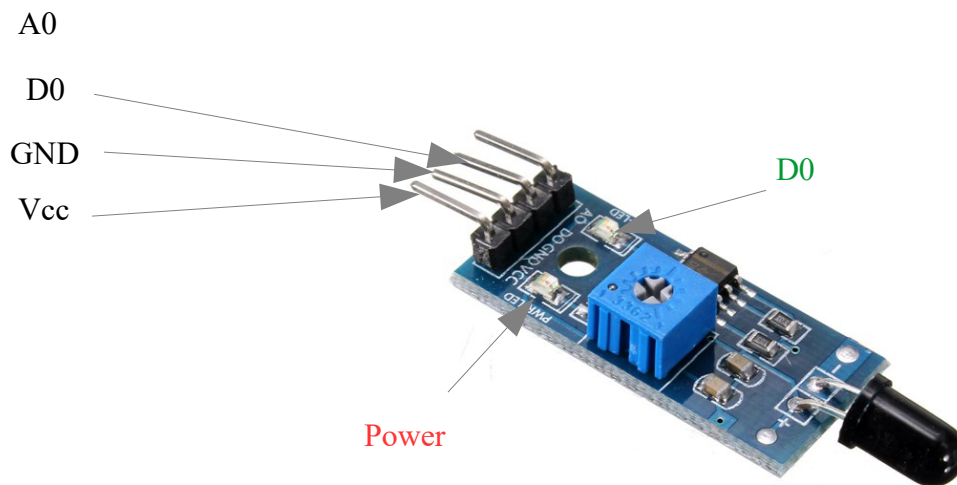


# Using IR Flame Sensor with Raspberry-Pi

## About IR Flame Sensor:

Infrared(IR) flame detectors monitor the infrared spectral band for specific patterns given off by hot gases. These are sensed using a specialized fire-fighting thermal imaging camera (TIC), a type of thermographic camera. False alarms can be caused by other hot surfaces and background thermal radiation in the area. Water on the detector's lens will greatly reduce the accuracy of the detector, as will exposure to direct sunlight. A single-frequency IR flame detector is typically sensitive to wavelengths around 4.4 micrometers, which is a spectral characteristic peak of hot carbon dioxide as is produced in a fire. The usual response time of an IR detector is 3–5 seconds.

## Pin Connection:



Connect the pins of the Sensor to raspberry-pi as follows:

Pin of Sensor → Pin of Raspberry-Pi

Vcc → Pin 1

GND → Pin 6

D0 (meaning: digital output) → Pin 7(GPIO 4)

A0 (meaning: digital output) → <none>(We are not using this pin)

Also note that there is an adjustable screw in the sensor, and 2 LEDs of which one LED in **red** color indicates that it is connected to the **power** source and the other is **green** which indicates that **digital output (D0)** pin is providing an logic HIGH output.

Hence adjust the screw such that when the flame is detected the green light must appear, and the green light must go off when there is not flame.

**Code:**

```
from time import sleep
import RPi.GPIO as GPIO
GPIO.setmode(GPIO.BCM)
GPIO.setup(4,GPIO.IN)
while True:
    try:
        if (GPIO.input(4)==0):
            print("Flame Detected")
        else:
            print("Not Detected")
        sleep(0.3)
    except KeyboardInterrupt:
        exit()
GPIO.cleanup()
```