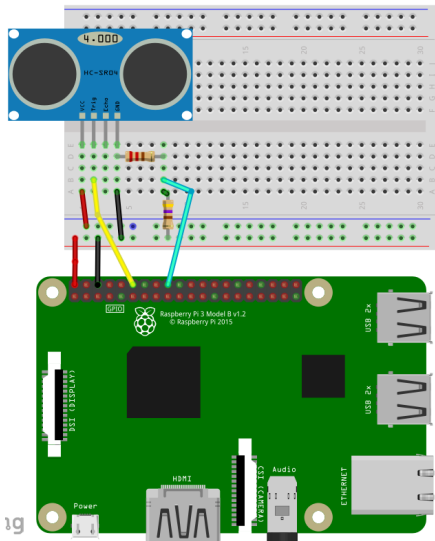




# Learn ICT Raspberry Pi Cheat Sheets

## Distance Sensor

### Wiring Diagram



The easiest way to connect this sensor is using a breadboard like the image to the left.

“The distance sensor requires two GPIO pins: one for the trigger (marked TRIG on the sensor) and another for the echo (marked ECHO on the sensor). However, a voltage divider is required to ensure the 5V from the ECHO pin doesn't damage the Pi. Wire your sensor according to the following instructions:

Connect the GND pin of the sensor to a ground pin on the Pi.

Connect the TRIG pin of the sensor a GPIO pin.

Connect a 330Ω resistor from the ECHO pin of the sensor to a different GPIO pin.

Connect a 470Ω resistor from ground to the ECHO GPIO pin. This forms the required voltage divider.

Finally, connect the VCC pin of the sensor to a 5V pin on the Pi.

The following code will periodically report the distance measured by the sensor in cm assuming the TRIG pin is connected to GPIO17, and the ECHO pin to GPIO18”

[gpiozero.readthedocs.io](http://gpiozero.readthedocs.io)

### Code

```
from gpiozero import DistanceSensor
from time import sleep

sensor = DistanceSensor(echo=18, trigger=17)
while True:
    print('Distance: ', sensor.distance * 100)
    sleep(1)
```

### Ideas

Use this device to build an avoidance robot or work out the time it takes for an object to move from one spot to another.