HC-SR05 / HY-SRF05 Precision Ultrasonic Sensor

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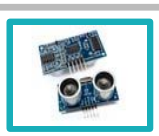

$6.99

(30,38 lei RON)

Shipping to Romania starts at $12.49 (54,28 lei RON)

Quantity*

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Description Shipping

An ultrasonic ranging sensor with slightly better accuracy.

Ultrasonic sensors overcome many of the weaknesses of IR sensors - they provide distance measurement regardless of color and lighting of obstacles.

They also provide lower minimum distances and wider angles of detection to gaurantee that obstacles are not missed by a narrow sensor beam.

THIS particular model is an upgrade from the lower precision HC-SRO4. This has 5 pins and can be used in 1-pin trigger/echo or 2-pin.

Specifications

Check the datasheet for details and graphs but these are the highlights:

- **Trigger Pin Format:** `10 uS digital` pulse
- **Sound Frequency:** `40 kHz`
- **Echo Pin Output:** `0-Vcc`
- **Echo Pin Format:** output is `DIGITAL` and directly proportional with range. See our conversion formula above.
- **Measurement Range:** `2cm to ~4.5m`
- **Measurement Resolution:** `0.3cm`
- **Measurement Angle:** up to `15 deg`
- **Measurement Rate:** `40 Hz`
- **Supply Voltage:** `4.5V to 5.5V`
- **Supply Current:** `10 to 40mA`
- **Connector:** standard `5-pin male` connector which can plug directly into breadboards.

Measurement Procedure & Formula

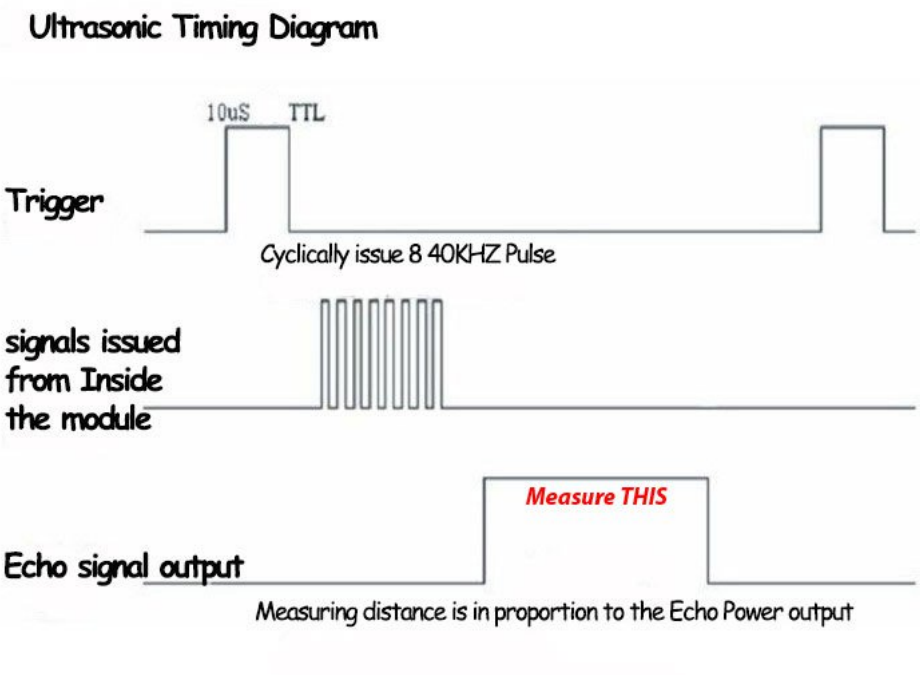
Distance measurements can be made with microcontrollers in a straightforward manner:

You can find an Arduino Library with code here: http://forum.arduino.cc/index.php?topic=106043.0(http://forum.arduino.cc/index.php?topic=106043.0)

- Send a 10 uS wide pulse to the sensor on the Trigger Pin. The sensor will automatically send out a 40 kHz wave.
- Begin monitoring the output from the Echo Pin and
- When the Echo Pin goes high, begin a timer.
- When the Echo Pin goes low, record the elapsed time from the timer and use the following conversion formula:

```
Distance (in cm) = (elapsed time * sound velocity (340 m/s)) / 100 / 2
```

Note: we divide distance by 2 because the sensor returns the round trip time, which doubles the distance measurement.



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