



MAKER FACTORY 2134052 Ultrasonic Sensor Module Instructions

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MAKER FACTORY 2134052 Ultrasonic Sensor Module



Description

The module is an ultrasonic sensor that senses oncoming objects and their distance to the sensor.

Pinout / Pin Map

Pin	Description
VCC	Power supply 5 V/DC
Trig	Trigger transmit signal
Echo	Echo signal
Pin	Description
GND	GND
OUT	Possibility to connect to an oscilloscope

Example Application

In this example we will make the sensor detect an oncoming object and report the measured distance.

The instructions use the Arduino® platform to illustrate product use. You can also use an Arduino derivative or another platform that supports this type of product.

Connection

Make sure you switch resistors between LED/Module and developer board as listed in the connection table or shown in the connection diagram to prevent damaging your components.

Module	Arduino®
VCC	5V
Trig	12
Echo	13
GND	GND

Code

- define trigPin 12
- define echoPin 13
- define led 11
- define led2 10

void setup

- Serial.begin (9600);
- pinMode(trigPin, OUTPUT)
- pinMode(echoPin, INPUT)
- pinMode(led, OUTPUT)
- pinMode(led2, OUTPUT)

void loop

- long duration, distance;
 - digitalWrite(trigPin, LOW);
 - delayMicroseconds(2);
 - digitalWrite(trigPin, HIGH);
 - delayMicroseconds(10);
 - digitalWrite(trigPin, LOW);
 - duration = pulseIn(echoPin, HIGH);
 - distance = (duration/2) / 29.1;
- // This is where the LED On/Off happens

if (distance < 4) { // When the Red condition is met, the Green LED should turn off

- digitalWrite(led,HIGH);
- digitalWrite(led2,LOW);
- digitalWrite(led,LOW);
- digitalWrite(led2,HIGH);

```
if (distance >= 200 || distance <= 0){ Serial.println("Out of range"); else
```

- Serial.print(distance);
- Serial.println(" cm");
- delay(500);

Procedure

1. Prepare a sketch with the given code and upload it to your board.
2. Connect the module/component to the board as shown in the connection diagram or table.
3. Approach the sensor within its range with an object.
4. Measurements are output to the Serial Monitor.

Specifications

Operating voltage	+5 V/DC
Quiescent Current	<2 mA
Working Current	15 mA
Measuring Angle	30°
Effectual Angle	<15°

Range	2 – 400 cm
Resolution	0.3 cm
Trigger Input Pulse Width	10 µs
Dimensions (approx.)	49 x 22 x 15 mm
Weight (approx.)	9 g

Disposal

Electronic devices are recyclable waste and must not be dis-posed of in the household waste. At the end of its service life, dispose of the product in accordance with applicable regulatory guidelines. You thus fulfill your

statutory obligations and contribute to the protection of the environment.

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Documents / Resources

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