

## SEN-US01 Ultraschall-Sensor

Ultrasonic sensor is non-contact distance measurement module, which is also compatible with electronic brick. It's designed for easy modular project usage with industrial performance.



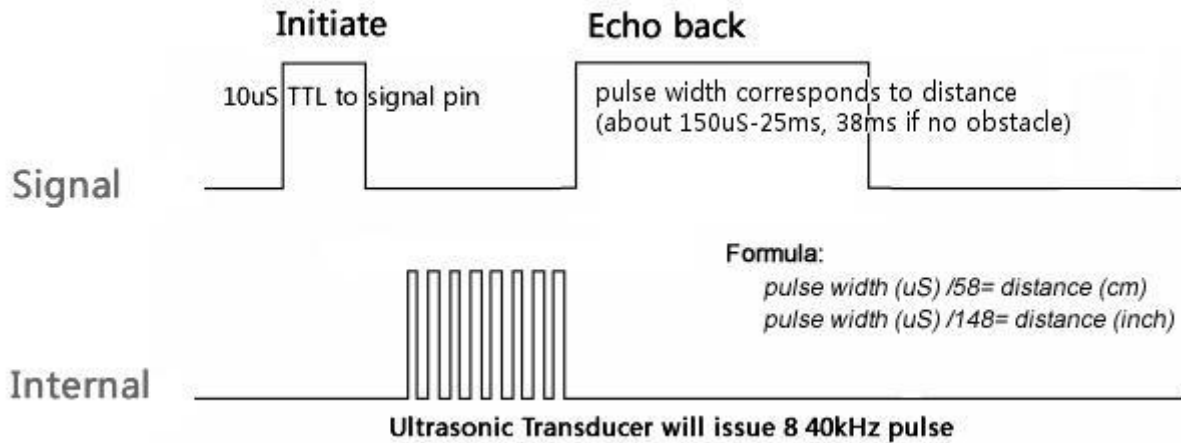
## Features

- Detecting range: 3cm-4m
- Best in 30 degree angle
- Electronic brick compatible interface
- 5VDC power supply
- Breadboard friendly
- Dual transducer

## Specification

Supply voltage	5V
Global Current Consumption	15 mA
Ultrasonic Frequency	40k Hz
Maximal Range	400 cm
Minimal Range	3 cm
Resolution	1 cm
Trigger Pulse Width	10 $\mu$ s
Outline Dimension	43x20x15 mm

## Ultra Sonic Timing Diagram



## Programming

```
const int pingPin = 7;
const int start_signal = 8;
void setup()
{
  Serial.begin(9600);
}
void loop()
{
  long duration, inches, cm;
  pinMode(pingPin, OUTPUT);
  pinMode(start_signal, OUTPUT);
  digitalWrite(start_signal, HIGH);
  delayMicroseconds(20);
  digitalWrite(start_signal, LOW);
  digitalWrite(pingPin, LOW);
  delayMicroseconds(2);
  digitalWrite(pingPin, HIGH);
  delayMicroseconds(5);
  digitalWrite(pingPin, LOW);
  pinMode(pingPin, INPUT);
  duration = pulseIn(pingPin, HIGH);
  inches = microsecondsToInches(duration);
  cm = microsecondsToCentimeters(duration);
  Serial.print(inches);
  Serial.print("in, ");
  Serial.print(cm);
  Serial.print("cm");
  Serial.println();
  delay(80);
}
long microsecondsToInches(long microseconds)
{
  return microseconds / 74 / 2;
}
long microsecondsToCentimeters(long microseconds)
{
  return microseconds / 29 / 2;
}
```