

Ultrasonic ranging

★ Overview



This is the experimental use of ultrasonic module (HCSR04) test distance. Ultrasonic module is generally used in the robot.

★ Specification




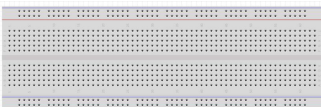

Please view "HCSR04.pdf"

Path: \Public_materials\Datasheet\ HCSR04.pdf

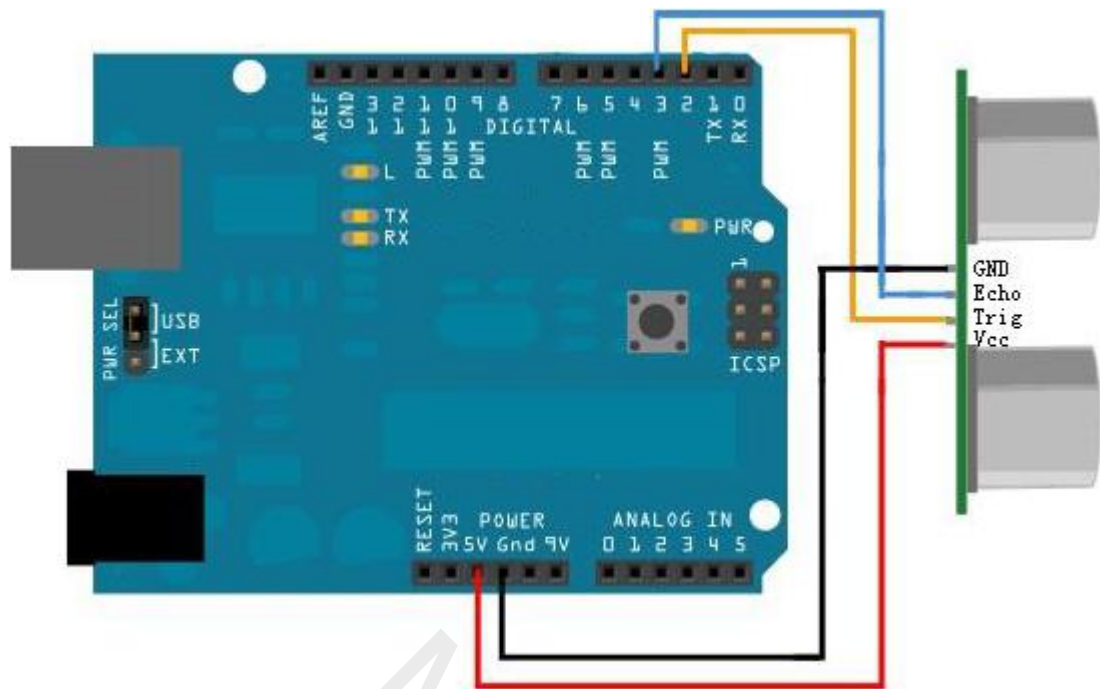
★ Pin definition

HC SR04	Arduino
Vcc	->VCC
Trig	->D2
Echo	->D3
Gnd	->GND

★ Hardware required

Material diagram	Material name	Number
	HCSR04	1
	USB Cable	1
	UNO R3	1
	Breadboard	1
	Jumper wires	Several

★ Connection diagram

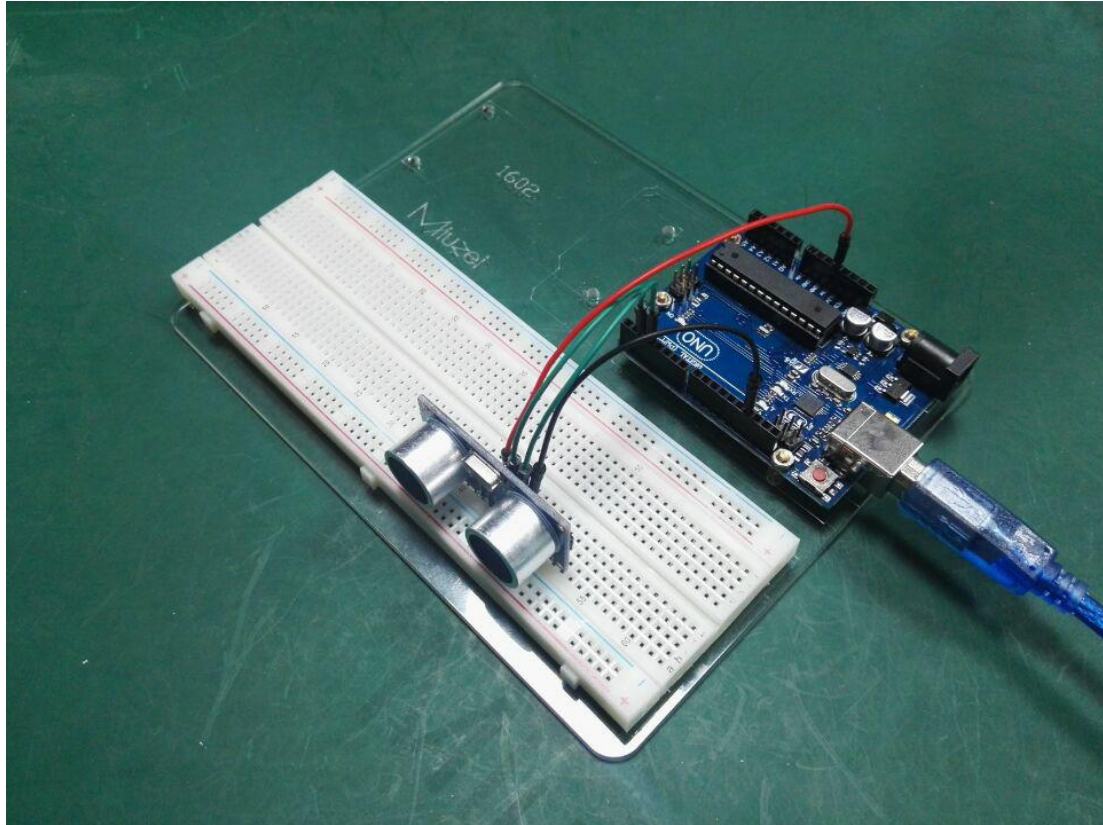


★ Sample code

Note: sample code under the **Sample code** folder

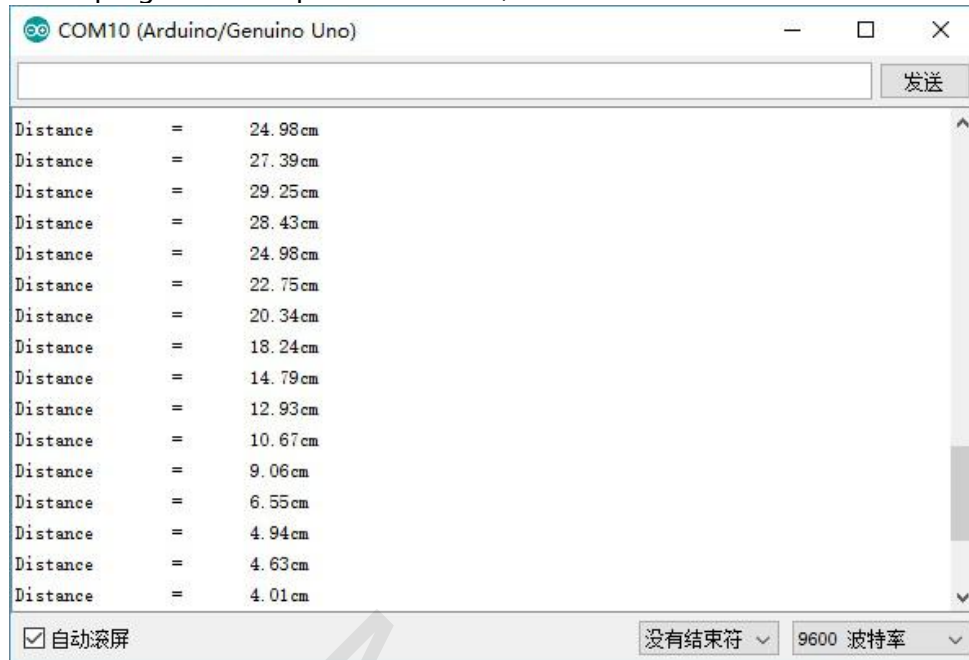
```
const int TrigPin = 2;
const int EchoPin = 3;
float cm;
void setup()
{
    Serial.begin(9600);
    pinMode(TrigPin, OUTPUT);
    pinMode(EchoPin, INPUT);
}
void loop()
{
    digitalWrite(TrigPin, LOW);
    delayMicroseconds(2);
    digitalWrite(TrigPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(TrigPin, LOW);
    cm = pulseIn(EchoPin, HIGH) / 58.0; //The echo time is converted into cm
    cm = (int(cm * 100.0)) / 100.0; //Keep two decimal places
    Serial.print("Distance\t=\t");
    Serial.print(cm);
    Serial.print("cm");
    Serial.println();
    delay(1000);
}
```

★ Example picture



★ Result

Upload the program then open the monitor, we can see the data as below:



★ Language reference

Tips : click on the following name to jump to the web page.

If you fail to open, use the Adobe reader to open this document.

[delayMicroseconds\(\)](#)

★ Application effect

Open the serial port monitor, and you will see the data returned by the ultrasonic module.

About Miuzei:

Miuzei found in 2011 , which is a professional manufacturer and exporter that concerned with open-source hardware research & product development, We have more than hundred engineers devote to developing open source hardware like Arduino, Raspberry pi ,3d printers , robots.

Miuzei committed to make more creative open source products and provide richer knowledge for enthusiasts worldwide. No matter what your ideas are, we provide various mechanical parts and electronic modules to turn your ideas into success.

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