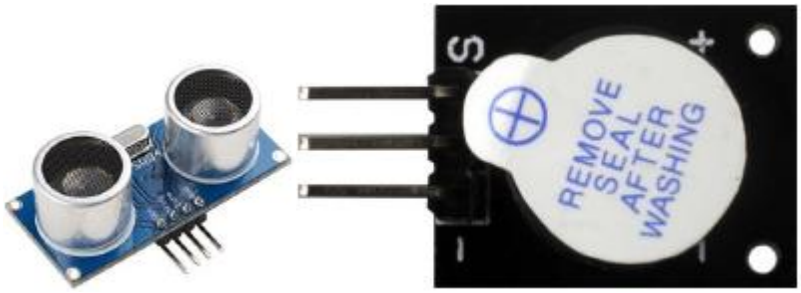
Distance warning

Overview



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

Specification

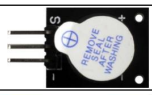
Please view "HCSR04.pdf"

Path: \Public_materials\Datasheet\ HCSR04.pdf

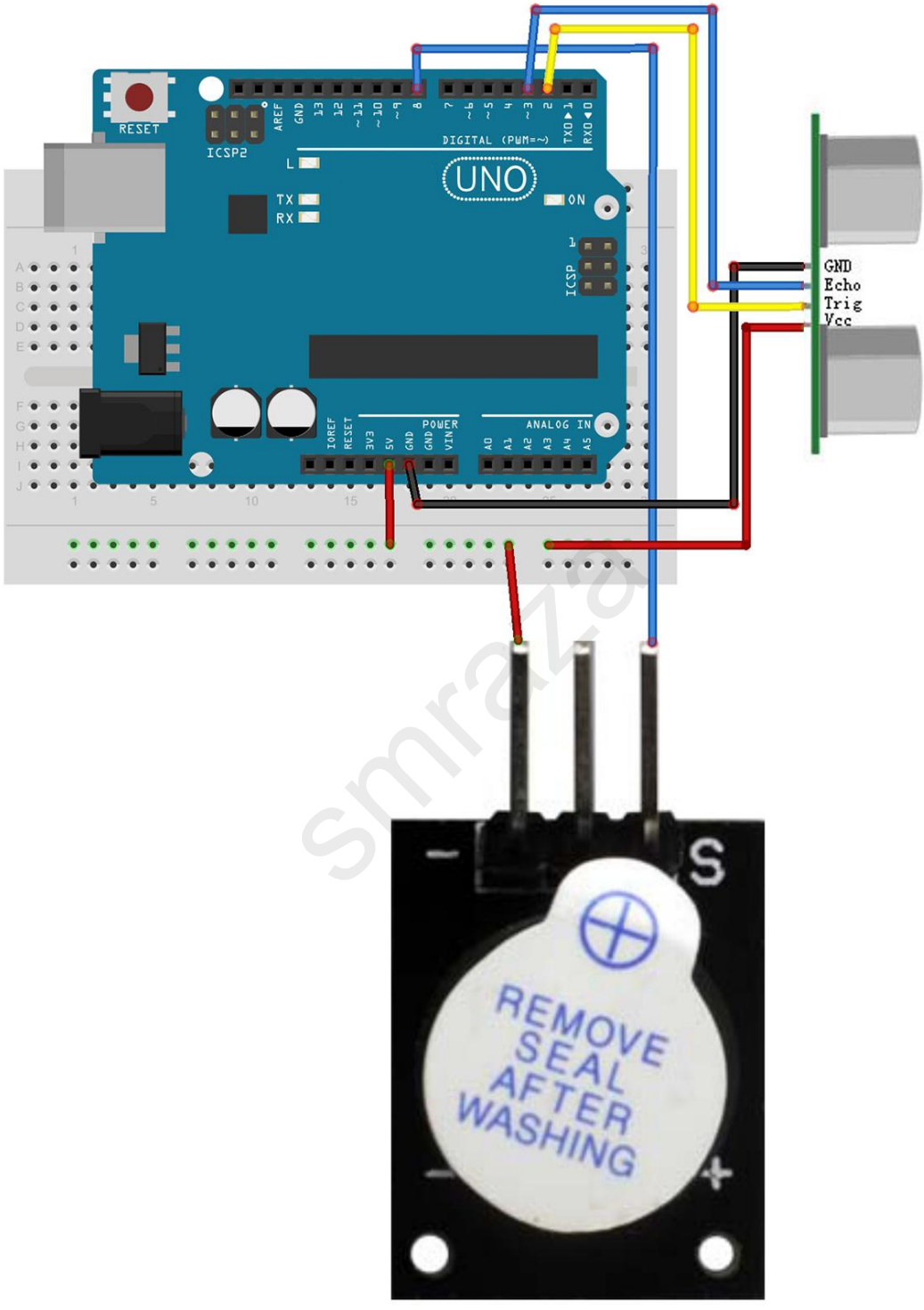
Pin definition

HC SR04	Arduino
Vcc	->VCC
Trig	->D2
Echo	->D3
Gnd	->GND
Active Buzzer	Arduino
"S"	->D8
"-"	->VCC

Hardware required

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

Connection diagram

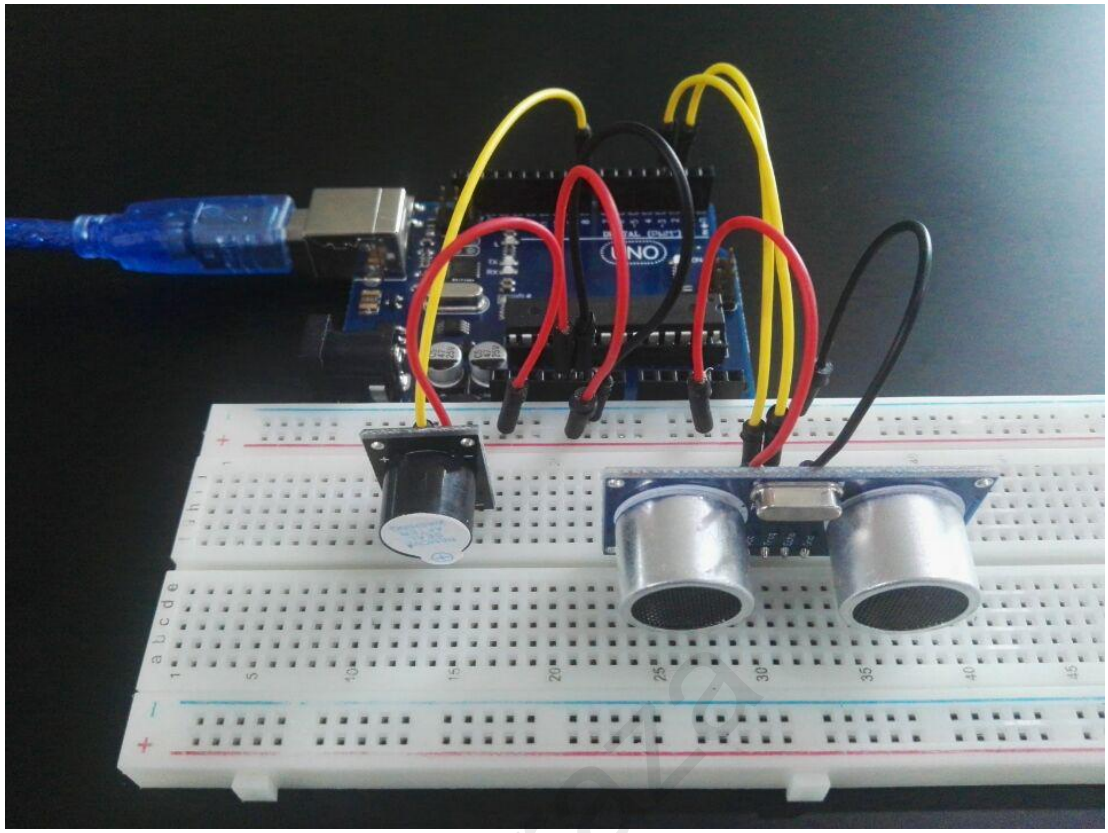


Sample code

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

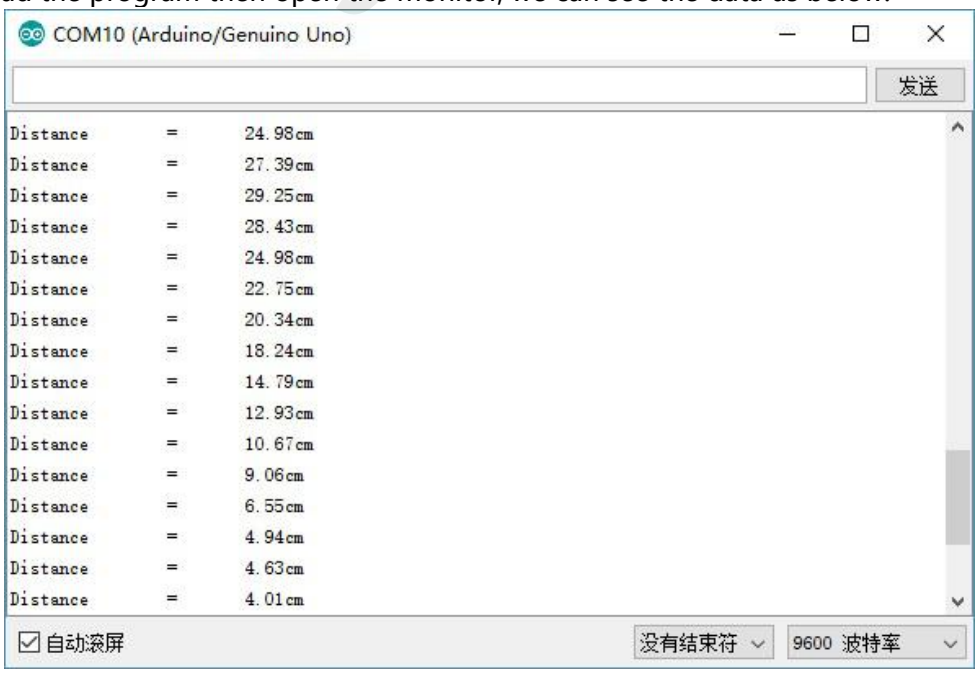
```
const int TrigPin = 2;
const int EchoPin = 3;
const int Data = 8;
float cm;
void setup()
{
  Serial.begin(9600);
  pinMode(TrigPin, OUTPUT);
  pinMode(EchoPin, INPUT);
  pinMode(Data,OUTPUT);
}
void loop()
{
  digitalWrite(TrigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(TrigPin, HIGH);
  delayMicroseconds(10);
  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();
  if(cm>10){
       digitalWrite(Data,HIGH);
       delay(500);
    }
    else
    {
       digitalWrite(Data,LOW);
       delay(500);
    }
  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 Smraza:
* We are a leading manufacturer of electronic components for Arduino and Raspberry Pi.
* Official website: http://www.smraza.com/
* We have a professional engineering team dedicated to providing tutorials and support to help you get started.
* If you have any technical questions, please feel free to contact our support staff via email at support@smraza.com
* We truly hope you enjoy the product, for more great products please visit our
Amazon US store: http://www.amazon.com/shops/smraza
Amazon CA store: https://www.amazon.ca/shops/AMIHZKLK542FQ
Amazon UK store: http://www.amazon.co.uk/shops/AVEAJYX3AHG8Q
Amazon DE store: http://www.amazon.de/shops/AVEAJYX3AHG8Q
Amazon FR store: http://www.amazon.fr/shops/AVEAJYX3AHG8Q
Amazon IT store: http://www.amazon.it/shops/AVEAJYX3AHG8Q
Amazon ES store: https://www.amazon.es/shops/AVEAJYX3AHG8Q
****