

Obstacle Avoidance Sensor (ST1081)



1. Introduction

Infrared obstacle avoidance sensor is designed for the design of a wheeled robot obstacle avoidance sensor distance adjustable. This ambient light sensor adaptable, high precision, having a pair of infrared transmitter and receiver, transmitter tubes emit a certain frequency of infrared, When detecting the direction of an obstacle (reflector), the infrared receiver tube receiver is reflected back, when the indicator is lit, Through the circuit, the signal output interface output digital signal that can be detected by means of potentiometer knob to adjust the distance, the effective distance From 2 ~ 40cm, working voltage of 3.3V-5V, operating voltage range as broad, relatively large fluctuations in the power supply voltage of the situation Stable condition and still work for a variety of microcontrollers, Arduino controller, BS2 controller, attached to the robot that Can sense changes in their surroundings.

Specification:

- Working voltage: DC 3.3V-5V
- Working current: $\geq 20\text{mA}$
- Operating temperature: $-10\text{ }^{\circ}\text{C} - +50\text{ }^{\circ}\text{C}$
- detection distance :2-40cm
- IO Interface: 4-wire interfaces (- / + / S / EN)
- Output signal: TTL level (low level there is an obstacle, no obstacle high)
- Adjustment: adjustable resistance
- Effective angle: 35 °
- Size: $45*16*10\text{mm}$
- Weight Size: 9g

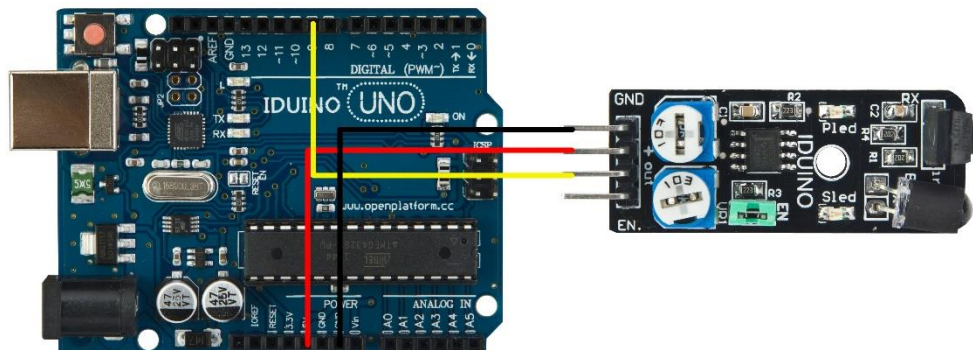
2. Pinout

Pin	Description
“+”	Power(3.3V~5V DC)
Gnd	ground
out	Signal pin
EN	Enable pin that Low level works, usually useless

3.Example

Here is a small example to test the sensor. By default, the sensor returns 1 on the Serial Monitor. When detecting something, the sensor return 0.

The connection as below:



*****Code begin*****

```
int count;
void setup() {

  Serial.begin (9600);
  pinMode (9, INPUT); //Sensor output
}
void loop() {
```

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```
Serial.print ("Sensor: ");  
  Serial.println (digitalRead(9)); //print the sensor output  
  delay (500); //wait half a second  
}
```

*****Code End*****

