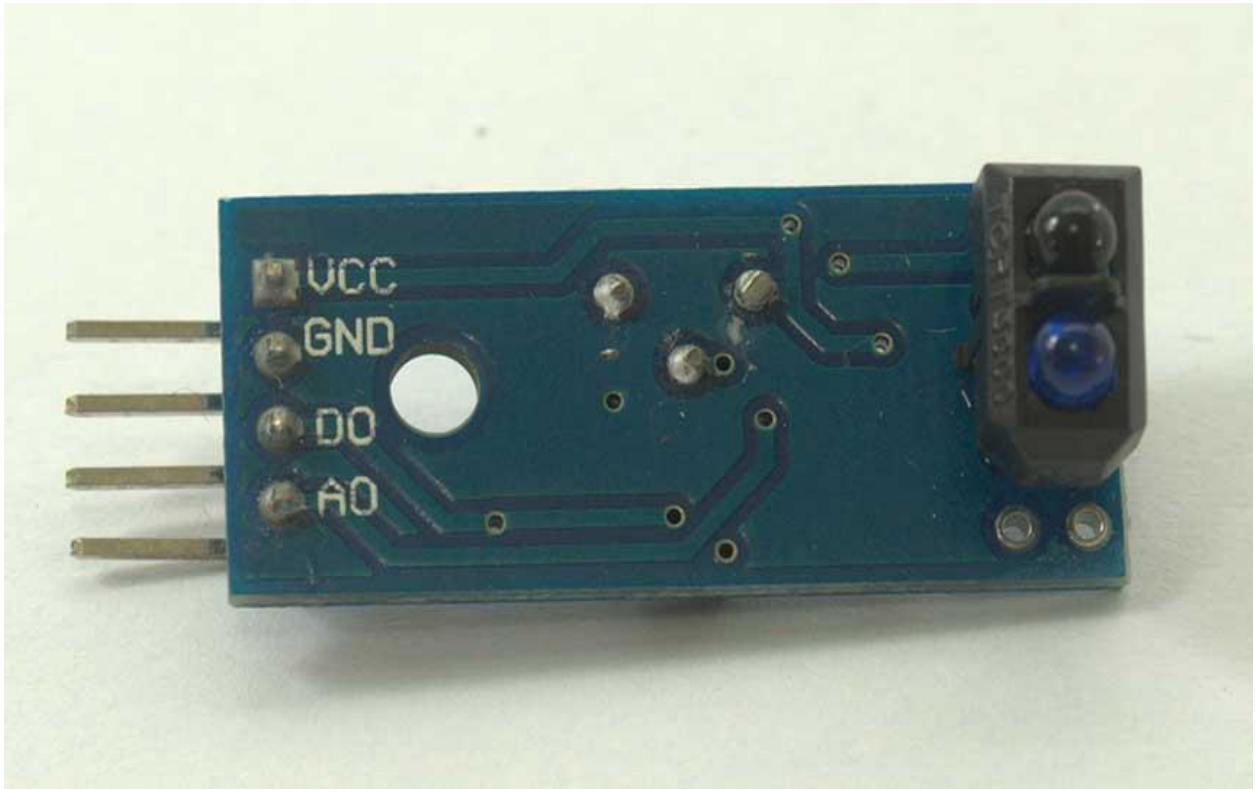


Infrared Proximity Collision Module



General Description:

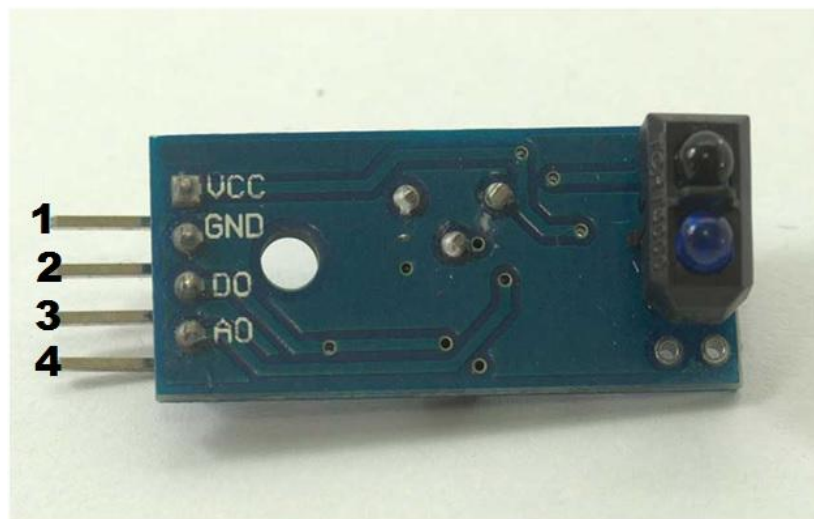
The sensor module is the ability to adapt to the environment light, and having a pair of infrared transmitter and the receiver tube, emitting infrared ray tube emits a certain frequency, when the detected direction, encounters an obstacle (reflection surface), the infrared reflected back is received tube receiving after a comparator circuit processing, via a potentiometer knob to adjust the detection distance, the effective distance range of 2 to 80cm, operating voltage of 3.3V-5V. With little interference, easy assembly, easy-to-use features, can be widely used in robot obstacle avoidance, obstacle avoidance trolley, assembly line count, and black and white line tracking and many other occasions.

The infrared emitting diode of the sensor emits infrared light. The phototransistor is off when there is no reflective infrared light or infrared light is not strong enough. The module output terminal is low level and the instructed diode is off;

when the object is detected in the detection range, the infrared rays are reflected back and the strong enough, the phototransistor is saturated, the output terminal of the module is high level, indicating that the diode is lit.

Specifications:

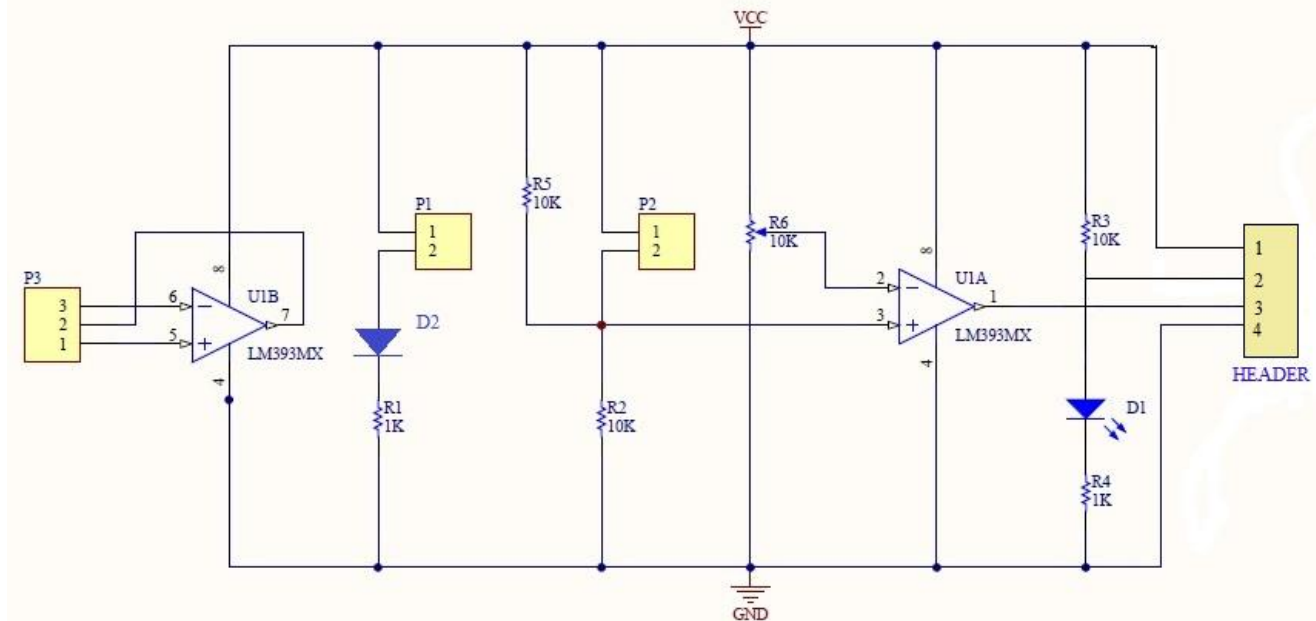
- On-board LM393 voltage comparator chip and infrared sensing probe.
- Support 5V/3.3V voltage input.
- On-board signal output instructions; output signal can directly connect with the microcontroller IO.
- The sensitivity of the signal detection can be adjusted.
- Reserve a line voltage to compare circuit (P3 has been leaded out).
- PCB size: 31 (cm) x13 (cm).



Pin Configuration:

1. VCC
2. Ground
3. DO pin
4. AO pin

Schematic Diagram:



How to test:

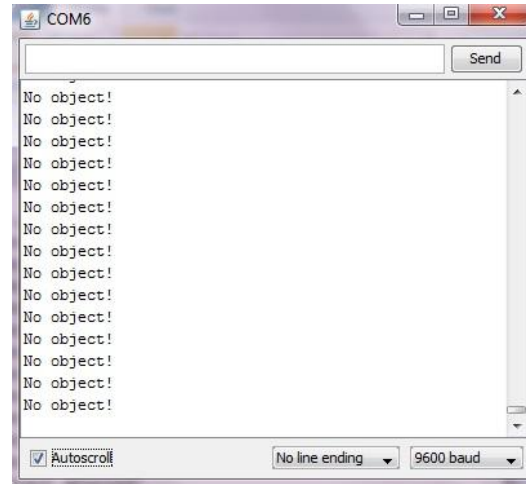
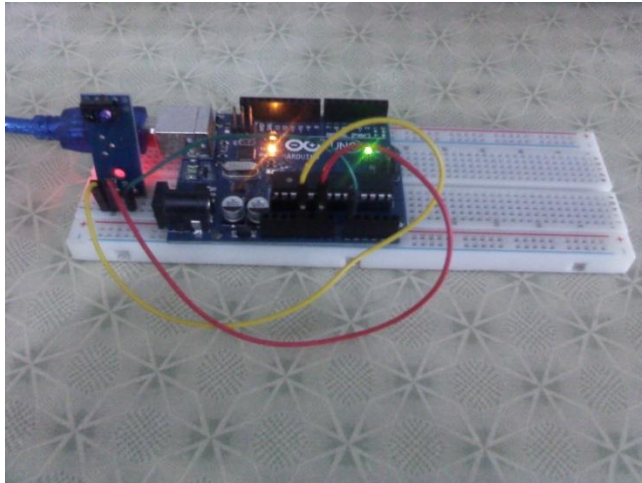
1. Connect your Arduino microcontroller to the computer.
2. Connect the VCC pin of your module to the 5V pin of your Arduino.
3. Connect the GND pin of your module to the GND pin of your Arduino.
4. Connect the Output pin of your module to the A0 pin of your Arduino.
5. Enter this program to your Arduino Integrated Development Environment (IDE):

```
void setup()  
{  
  Serial.begin(9600);  
}  
  
void loop()  
{  
  if (analogRead(A0) > 700) Serial.println("No object!");  
  else Serial.println("Object detected!");  
  delay(100);  
}
```

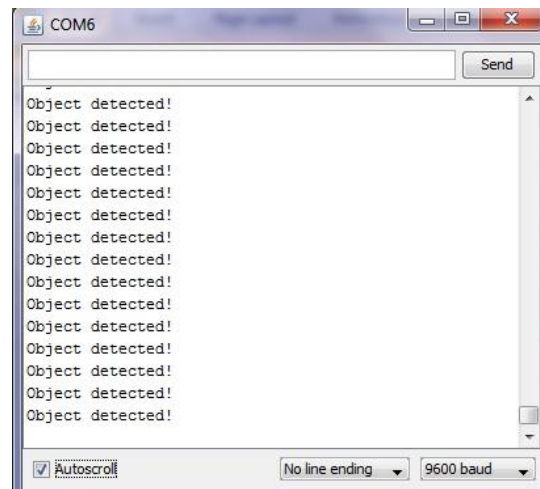
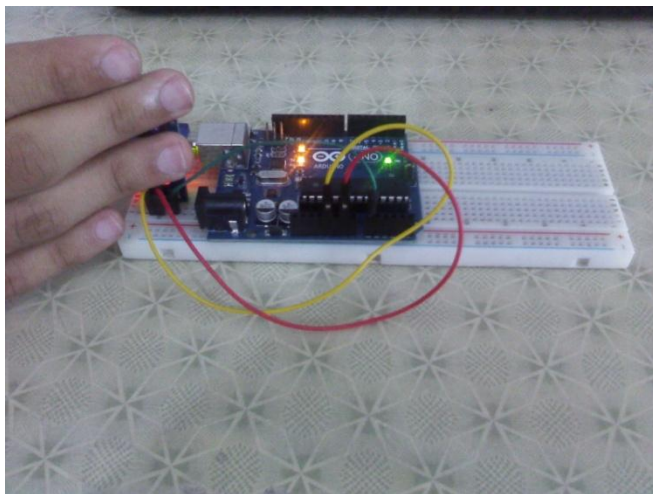
6. Click the Upload Button
7. Lastly, click the Serial Monitor button.

Testing Results:

When there is no object within the range of the module:



When there's an object within the range of the module:



Applications:

1. Watt-hour meter pulse data sampling
2. Fax machines shredder paper detection
3. Obstacle detection
4. Black-and-white line detection