

IR Sensor Report

by Valquiria de Castro

Introduction

It is a distance measuring sensor. It detects, inside a range, the distance between other objects and the sensor and can be used as a proximity sensor too.

Its range of analogue output varies from 2.8V at 15cm to 0.4V at 150cm with a supply voltage between 4.5 and 5.5VDC.

Source

I got it from Sparkfun website for \$14.95. It arrives in 6 days.

<https://www.sparkfun.com/products/8958>

Applications

It is usually used to make robots recognize obstacles around them. The links show some Arduino projects that use this model or some similar model of distance measuring sensor.

<https://www.youtube.com/watch?v=LtwYti5t7Ko>

<http://singlewomensecrowns.tumblr.com/siriuscrownelectronics>

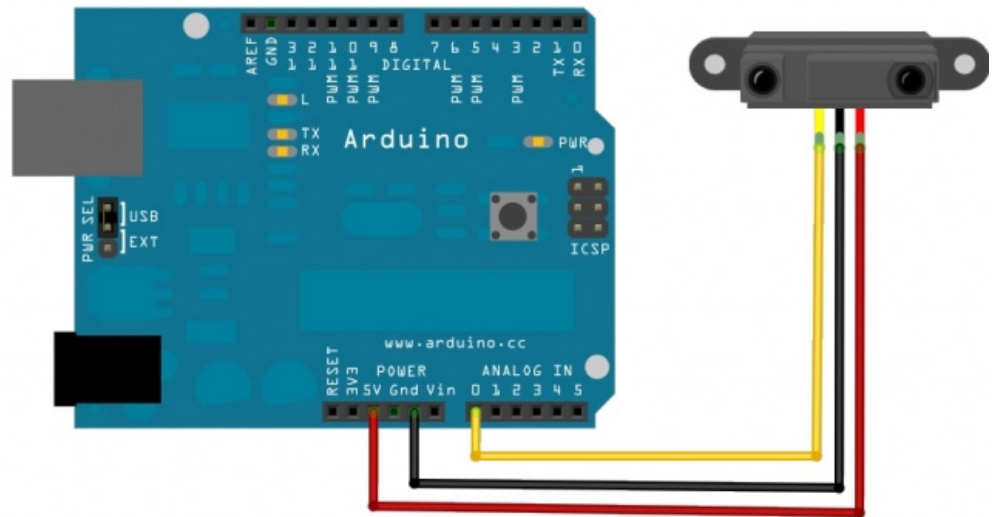
<https://www.youtube.com/watch?v=ExlgU0-AXWc>

<https://www.youtube.com/watch?v=5Bq6gRd2MUs>

Datasheet

<http://communityofrobots.com/tutorial/kawal/how-use-sharp-ir-sensor-arduino>

Microcontroller Connection



Code Example

```
file edit sketch tools help
sketch_sep26a $
int sensorpin = 0; // analog pin used to connect the sharp sensor
int val = 0;
int ledPin = 13; // variable to store the values from sensor (initially zero)

void setup()
{
  Serial.begin(9600); // starts the serial monitor
  pinMode(ledPin, OUTPUT);
}

void loop()
{
  val = analogRead(sensorpin); // reads the value of the sharp sensor
  Serial.println(val); // prints the value of the sensor to the serial monitor
  digitalWrite(ledPin, HIGH); // turn the ledPin on
  delay(val); // stop the program for some time
  digitalWrite(ledPin, LOW); // turn the ledPin off
  delay(val); // wait for this much time before printing next value
}
```

Typical Behavior

My code gets the values of distance that the sensor gives and translate it into the amount of blinking that the LED does. The bigger the number the closer it is, the more it blinks the further it is.

Personal Application

The sensor can be used in a more artistic way where graphics change depending on the distance that the user is from a specific object or place.

References

<http://communityofrobots.com/tutorial/kawal/how-make-your-first-robot-using-arduino>

<http://luckylarry.co.uk/arduino-projects/arduino-using-a-sharp-ir-sensor-for-distance-calculation/>