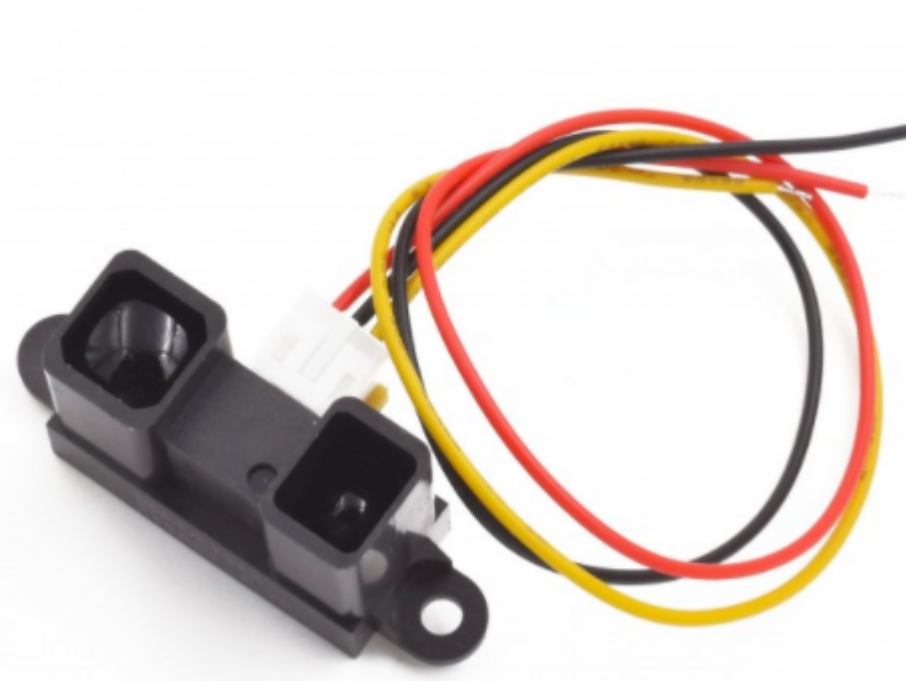
IR DISTANCE SENSOR GP2Y0A02YK0F (SHARP, ANALOG, 20-150CM)



Description

The GP2Y0A02YK0F uses a 3-pin JST PH connector that works with our 3-pin JST PH cables for Sharp distance sensors, also included is a 3-pin JST PH cable 8 in (20 cm) in length for each unit.

How it works: Infrared is sent out by the sensor which bounces off objects. The analog voltage that is returned determines how close the nearest object is. The closer it is, the higher the voltage is returned.

Features

Operating voltage: 4.5 V to 5.5 V

Average current consumption: 33 mA (note: this sensor draws current in large, short bursts, and the manufacturer recommends putting a 10 µF capacitor or larger across power and ground close to the sensor to stabilize the power supply line)

Distance measuring range: 20 cm to 150 cm (7.87-59.1 in)

Output type: analog voltage

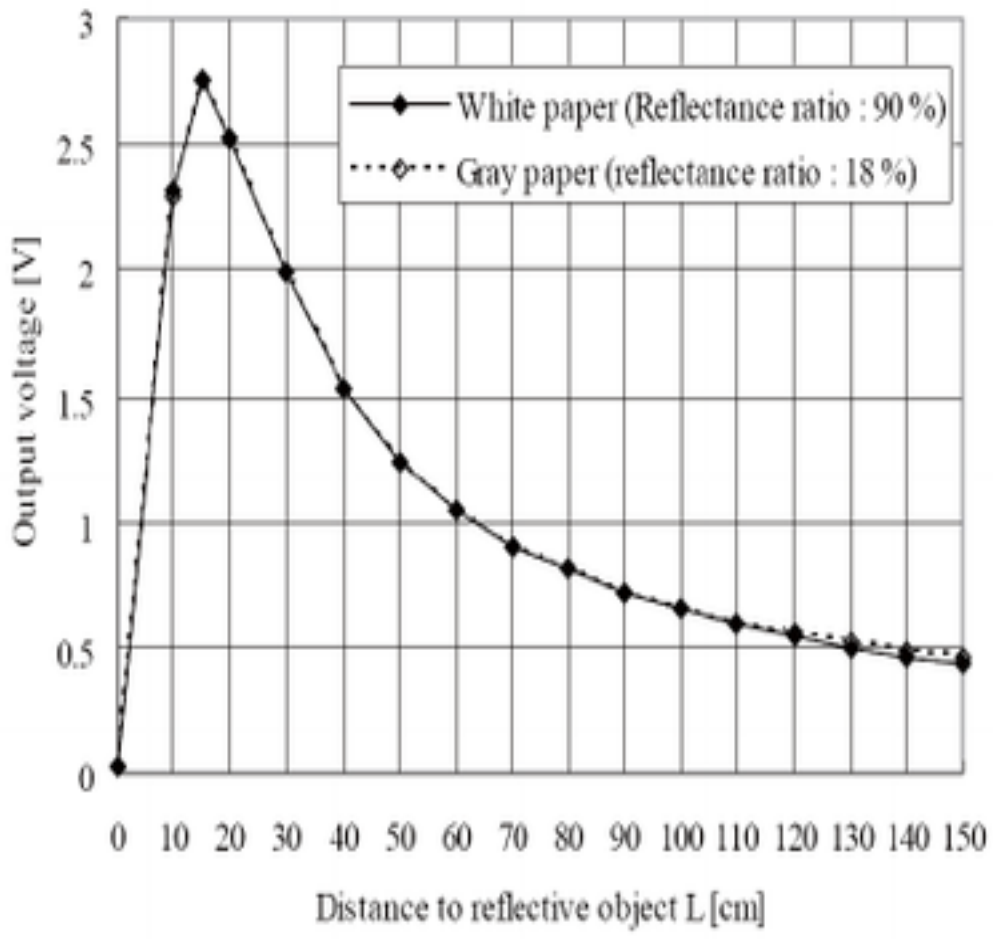
Output voltage differential over distance range: 2.05 V (typical)

Update period: 38 ± 10 ms

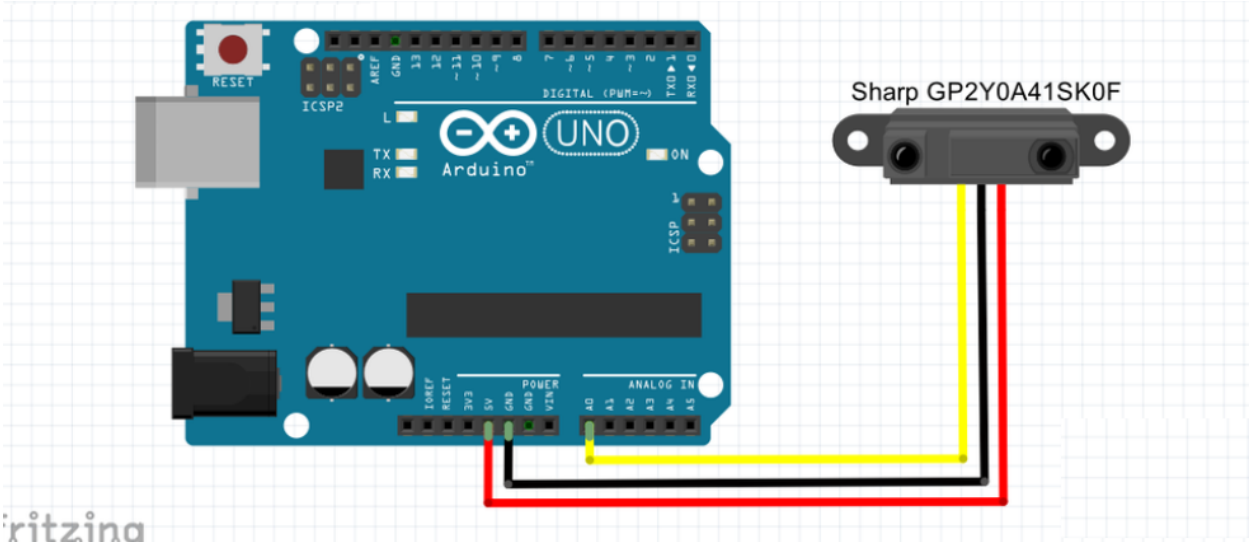
Size: 44.5 mm × 18.9 mm × 21.6 mm (1.75″ × 0.75″ × 0.85″)

Weight: 5 g (0.18 oz)

Sensor analog output graph



Arduino connection



Arduino code

```
// Sharp IR GP2Y0A41SK0F Distance Test
// http://tinkcore.com/sharp-ir-gp2y0a41-skf/
#define sensor A0 // Sharp IR GP2Y0A41SK0F (4-30cm, analog)
void setup() {
  Serial.begin(9600); // start the serial port
}
void loop() {
  float volts = analogRead(sensor)*0.0048828125;  // value from sensor * (5/1024)
  int distance = 13*pow(volts, -1); // worked out from datasheet graph
  delay(1000); // slow down serial port
  if (distance <= 30){
    Serial.println(distance);   // print the distance
  }}
```