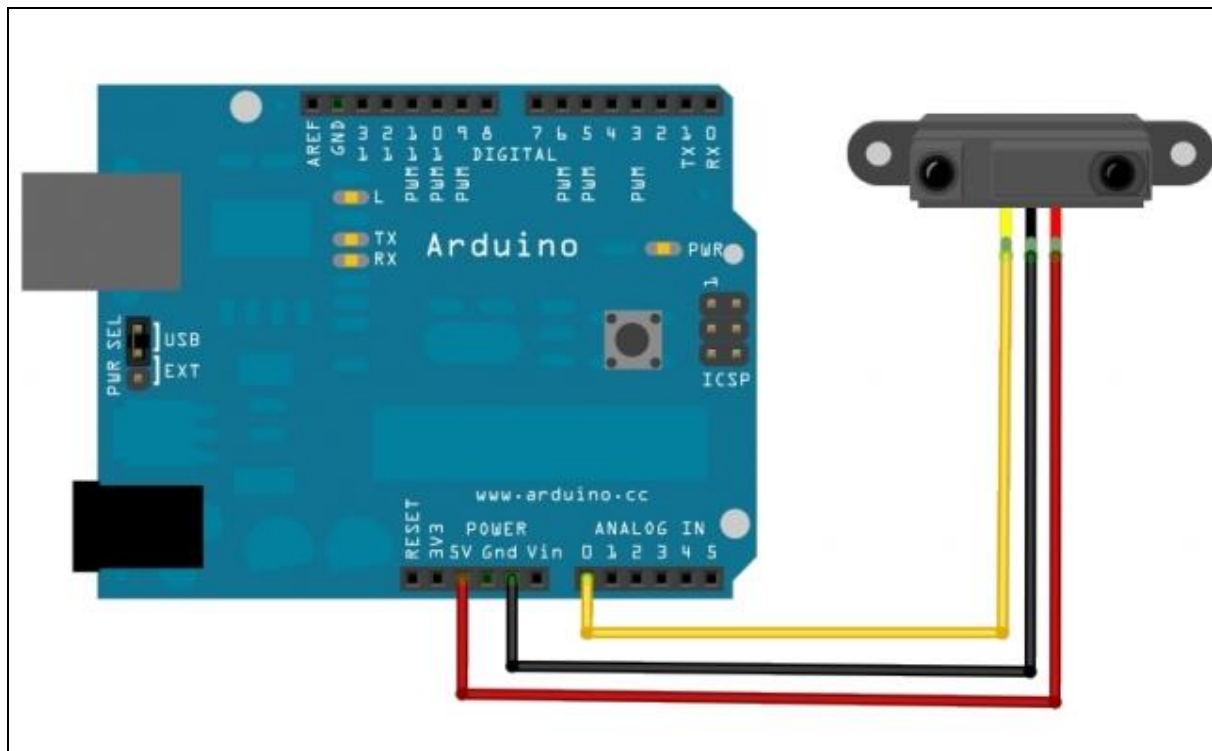


## DISTANCE MEASUREMENT USING SHARP IR PROXIMITY SENSOR

Infrared (IR) sensors generally provide an analog output that can be measured using `analogRead`. They can have greater accuracy than ultrasonic sensors, but with a smaller range (a range of 8 cm to 1 m or 2 m is typical for IR sensors).



### SAMPLE CODE:

```
void setup ()
{
  // configure the input pin which is connected to the sensor
  // start the serial communication
}
void loop ()
{
  //your variable name// = analogRead(//Arduino analog Pin//)
  float //your variable name1// = //your variable name//*0.0048828125;
  float cm= 41.53*pow((//your variable name1//+0.30221),-1.5281);
  //print the value of cm
  // arbitrary wait time.
}
```

## DISCUSSION

The above code takes the voltage value from the analog pin, where the sensor is connected and converts it into cm. The distance conversion formulae is derived from the graph (Distance versus voltage) plotted in the datasheet of the sharp IR sensor.

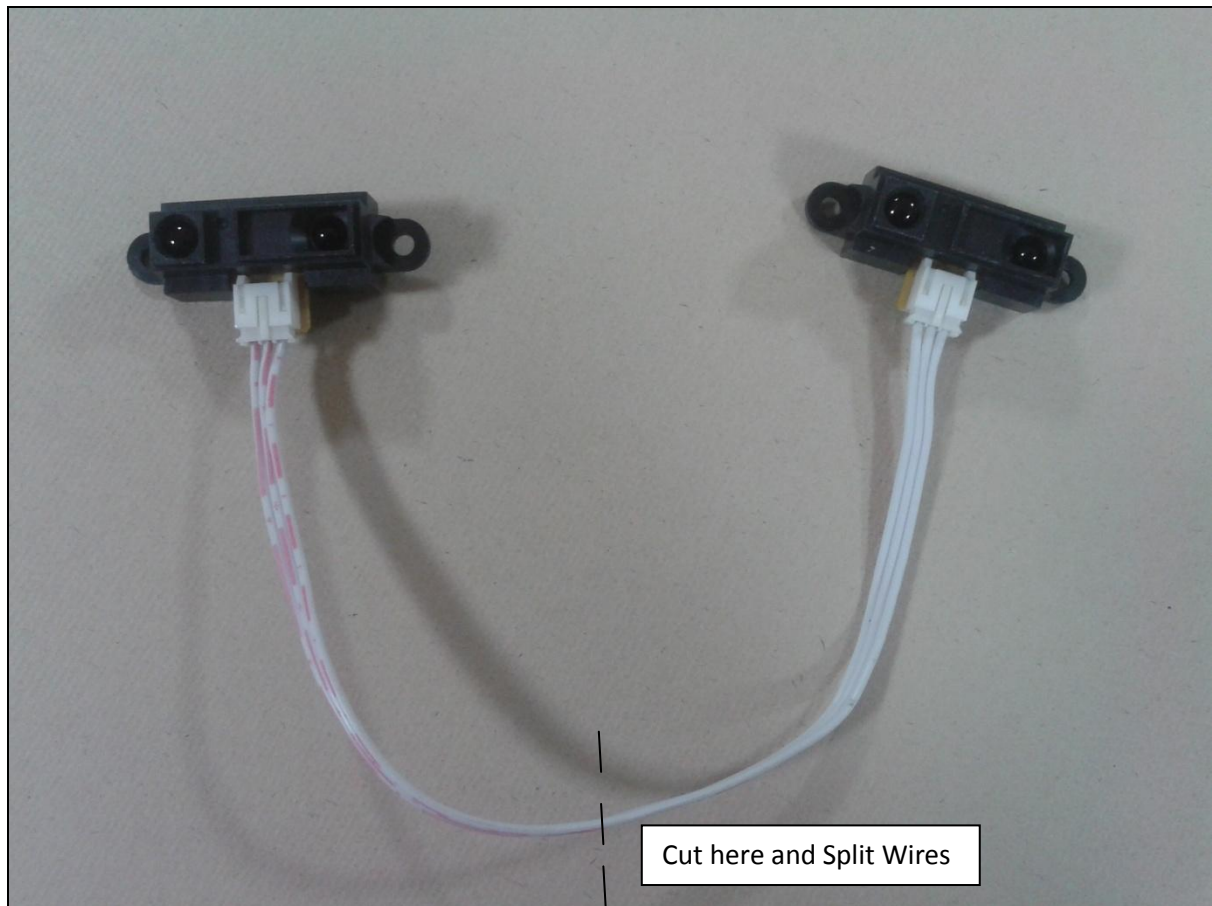
**For more information on:**

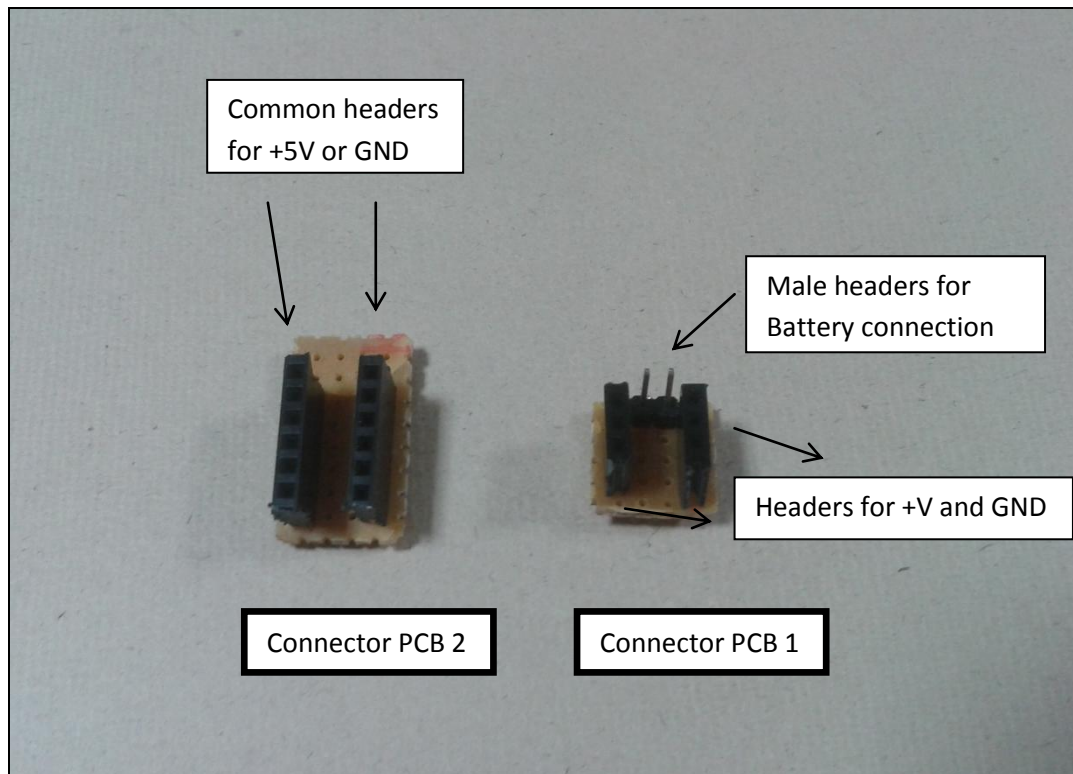
*IR proximity sensor- **datasheet "GP2Y0A21YK" and related resources on web.***

*Arduino visit- **[www.arduino.cc](http://www.arduino.cc)***

*Motor Driver board visit- **[www.nskelectronics.com/l293d\\_motor\\_drive\\_.html](http://www.nskelectronics.com/l293d_motor_drive_.html)***

## IMPORTANT NOTES





- Connect your 9V or 7.4V LiPo battery terminals to male header of connector PCB-1. Thus you will get +V and 0V (GND) on its respective headers.
- Now you can supply a power to Arduino using this PCB-1. Connect a wire from +V of PCB-1 to **Vin** pin of Arduino. Now connect a wire from GND of PCB-1 to **GND** pin of Arduino. Thus, Arduino will get power.
- Further, to power up your IR proximity sensors use connector PCB-2. IR sensors works at +5V. Thus you can get +5V from Arduino board via **5V pin** on the board.
- Connect wires from 5V and GND pins of Arduino to PCB-2. Now you can supply a power to IR Proximity sensors using other pins of PCB-2.