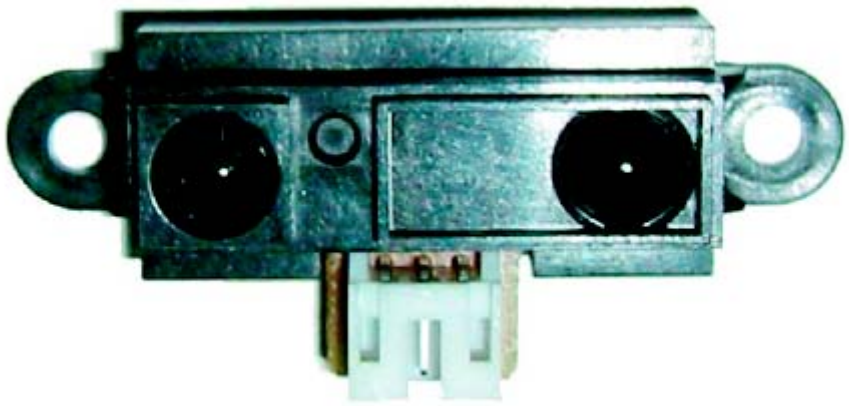

Sharp GP2D12 IR Range Finder

Wire & Crimp Assembly Instructions

Version 1.00 - Modified 9/1/2003

Robodyssey Systems, LLC.
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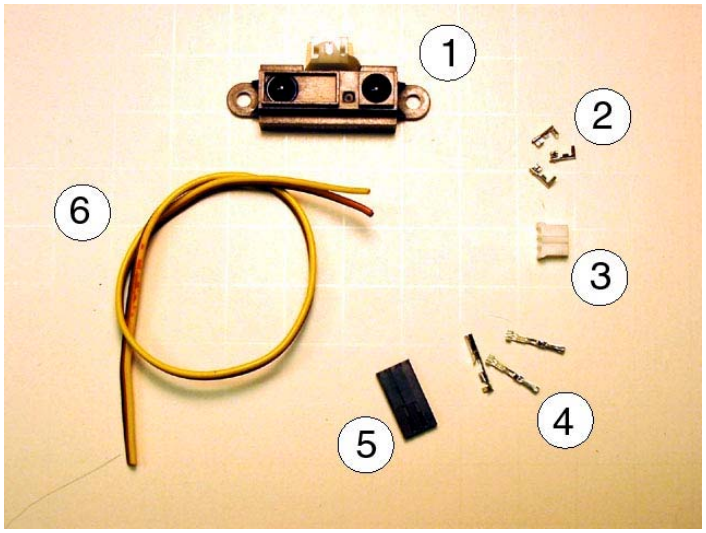
Sharp GP2D12 Kit Contents:



1 Sharp GP2D12
2 Small Crimps (3)
3 Small Crimp Hood
4 Large Crimps (3)
5 Large Crimp Hood
6 Three Conductor Wire

Figure 1

Separate the conductors on each end of the included wire (6), and strip 1/8” off of each end, as shown in Figure 1.

Figure 2

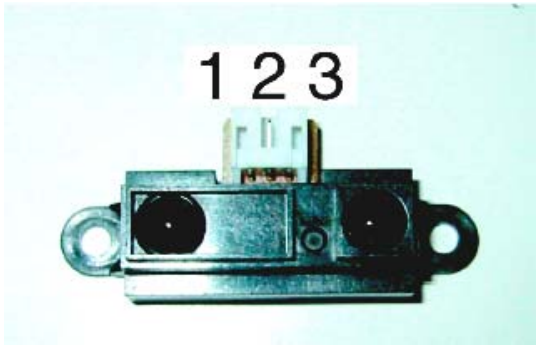
Attach the Small Crimps (2) to one end of the wire using a crimp tool or a pair of needle nosed pliers, as shown in Figure 2. When all three small crimps are attached, your wire should resemble Figure 4.

Figure 4

Attach the Large Crimps (4) to the other end of the wire as shown in Figure 5.

Figure 5

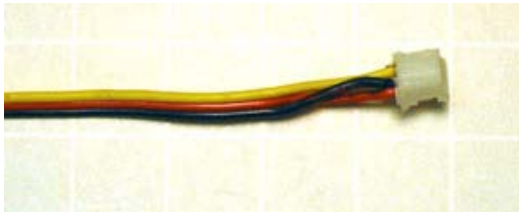
For additional strength, you may wish to put a **SMALL** amount of solder on the joint between the wire and the crimp. Be careful not to use too much solder, or the crimps may not fit inside the crimp hoods or on the header pins.



Before inserting the crimps into the hoods, you need to know how to arrange the wires. In Figure 6, the pins on the Sharp GP2D12 are arranged as follows:

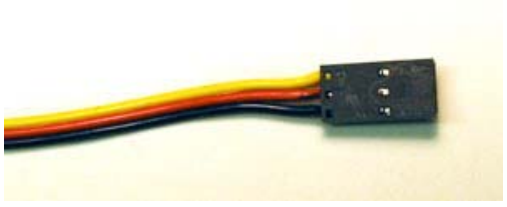
Pin 1: Power
Pin 2: Ground
Pin 3: Signal

Figure 6



Now insert the small crimps into the Small Crimp Hood (3) as shown in Figure 7. The crimps will only fit one way, so if they do not slide in and snap in place easily, you have them oriented incorrectly. Cross the black (Ground) lead over the Red (positive) lead so that the Ground lead is in the center of the Small Crimp Hood.

Figure 7



Before inserting the large crimps into the Large Crimp Hood (5), please note the pin layout for your application. The wires in Figure 8 have been configured for using the Robodyssey Advanced Motherboard.

Pin 1: Signal
Pin 2: Power
Pin 3: Ground

Figure 8

Adjustable Bracket
You may purchase an adjustable angle bracket for mounting your Sharp GP2D12 on your robot. The bracket seen in the picture can be purchase at https://www.robodyssey.com/catalog/productdetail.asp?productid=26
Visit our web site for more information at www.robodyssey.com .

4 Sample Code & Usage
The Sharp GP2D12 outputs an analog voltage proportional to the measured distance from 4cm to 80 cm. The sensor is not affected by ambient lighting, angle of reflection, or color of detected object. For use with
the BasicX microprocessor, you should note that the sensor must be connected to the pins in range 13-20 (8- 15 on the Robodyssey Motherboard) for use with the chip's Analog to Digital Converters.
Visit http://dmtwww.epfl .ch/~jzuffere/SharpGP2D12_E.html for a great analysis of the Sharps precision, accuracy, and characteristics.

BasicX 24 - Sharp GP2D12 Sample Code

```
Const IRSensorPin As Byte = 13
'Connect the Sharp GP2D12 to Pin 8 on the Robodyssey
Motherboard
Sub Main()
Do
Debug.Print "Value: ";CStr(GetADC(IRSensorPin))
'The voltage measurements will be displayed on your computer
screen
'The larger the value, the closer the object
Sleep(1.0)
Loop
End Sub
```

Thank you for purchasing your Sharp GP2D12 IR Ranger from Robodyssey Systems, The Leader in Educational Robotics Systems.