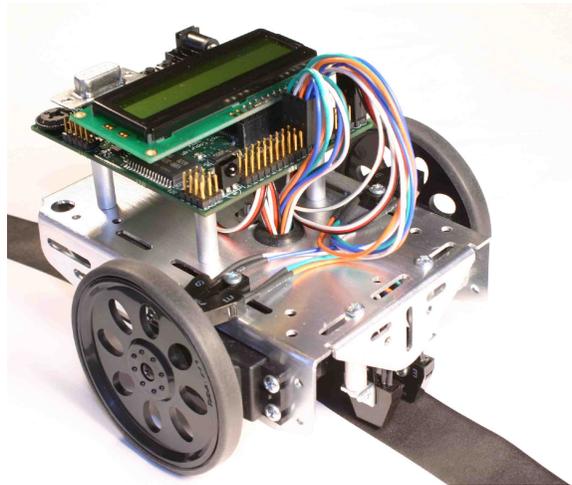




Line Sensor Kit

Assembly Guide



www.ridgesoft.com

Revision 1.0

Introduction

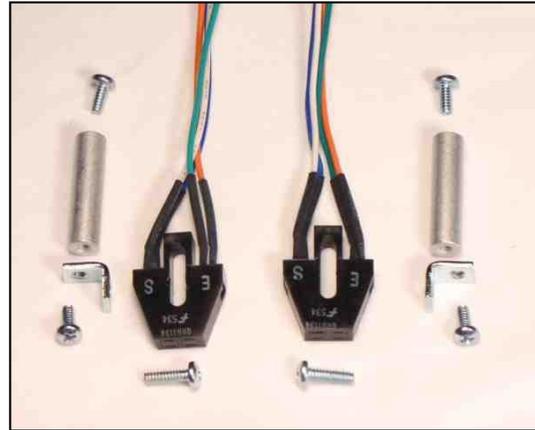
This guide provides step-by-step assembly instructions for the IntelliBrain™-Bot line sensor kit.

Line Sensor Kit Parts

The line sensor kit includes the parts shown and listed below.

Parts List:

- 2 infrared photo-reflector sensors
- 2 standoffs
- 2 right angle brackets
- 2 3/8" (long) 4-40 round head screws
- 4 1/4" (short) 4-40 round head screws



Assembly Tools

You will need a #1 tip Phillips screwdriver to assemble your line sensors and attach them to your IntelliBrain-Bot.

Attach Brackets to Standoffs

Parts:

- 2 standoffs
- 2 right angle brackets
- 2 short screws

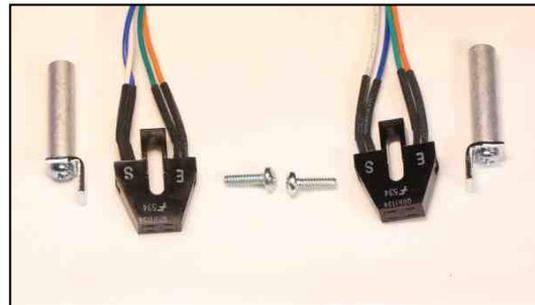


Instructions:

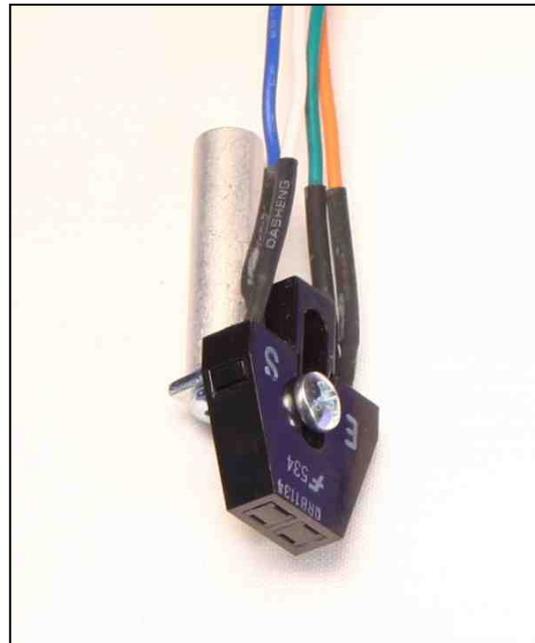
1. Insert a short screw through the unthreaded hole in a bracket.
2. Thread the screw into the end of a standoff and tighten it.
3. Repeat the previous steps for the second set of parts.

**Attaching Sensors to Standoffs****Parts:**

- 2 standoff assemblies
- 2 long screws
- 2 sensors

**Instructions:**

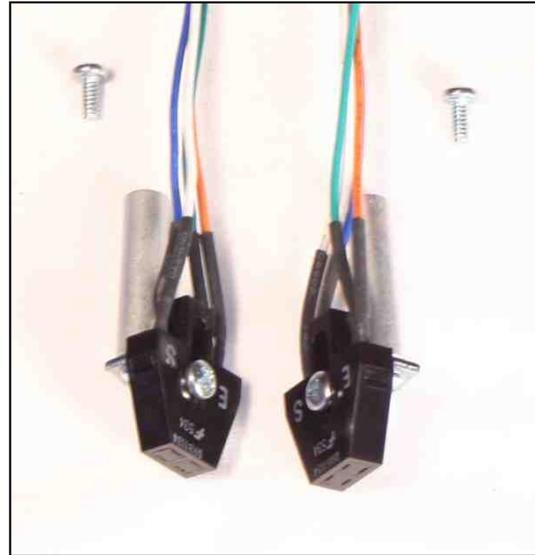
1. Insert a long screw through the slot in the sensor housing.
2. Thread the screw into the threaded hole in the angle bracket.
3. Adjust the position of the sensor such that the screw is between the E and S marks on the sensor and the slot in the sensor housing is parallel to the standoff, as shown in the figure to the right.
4. Tighten the screw.
5. Repeat the previous steps for the second sensor.



Attaching the Sensors to Your IntelliBrain-Bot

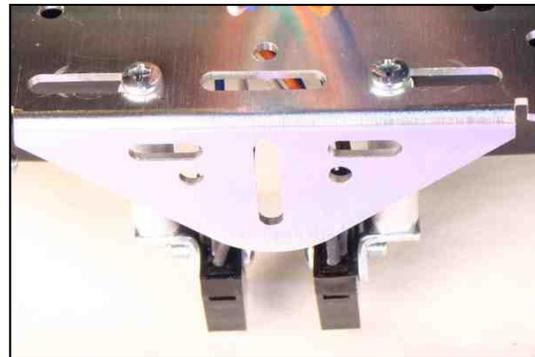
Parts:

- 2 sensor assemblies
- 2 short screws



Instructions:

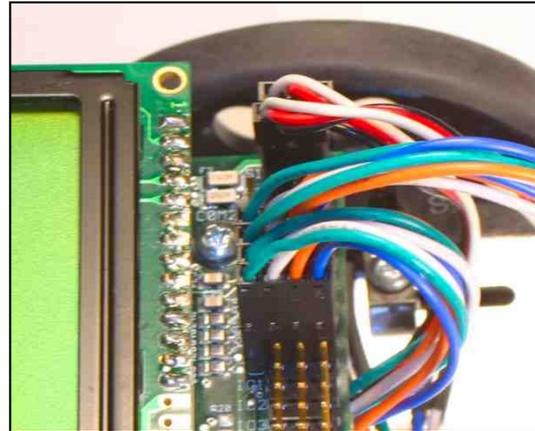
1. Insert a screw through the right slot near the front edge of your IntelliBrain-Bot.
2. Thread the screw into the end of the standoff on a sensor assembly.
3. Orient the sensor as shown in the figure to the right.
4. Tighten the screw.
5. Repeat the previous steps, this time using the left slot.



Attaching the Sensor Leads

Instructions:

1. Thread the lead from the left sensor through the hole in the grommet in the IntelliBrain-Bot chassis.
2. Connect the left sensor to the port marked "A6", positioning the blue lead such that it is on the pin nearest the front edge of the IntelliBrain controller board.
3. Repeat the previous steps, this time attaching the right sensor to the port marked "A7", again positioning the blue lead on the pin nearest the front edge of the board.



Testing

1. Using RoboJDE, load the "IntelliBrainBotLineFollower" example program from the folder:
"Program Files\RoboJDE\Examples\IntelliBrainBot\LineFollowing".
2. Position your robot such that the line sensors are both directly over a solid black line or surface.
3. Press the START button.
4. Verify the left and right sensor readings displayed on the first line of the LCD display are greater than 350. If either reading is below 350, the corresponding sensor should be adjusted so it is further from the surface.
5. Position the sensors over a solid white surface.
6. Verify the sensor readings are both less than 250. If either reading is above 250, the corresponding sensor should be adjusted so it is nearer to the surface.
7. Position your robot with the line sensors over a one inch wide black line which forms a closed loop on a white surface.
8. Press the START button a second time.
9. Your robot will follow the line.