Calibrating the Force Sensor: Determining Relationships between Applied Force and Sensor Resistance/Conductance

INSTRUCTIONS

Use this instruction manual to help you connect the force sensor to the multimeter. Place a wooden puck and weights on top of the sensor to obtain a sensor reading. The goal is to determine the relationships between the applied force and sensor output. Make sure you have the following items:

- FlexiForce Sensor
- multimeter
- two 6-inch wires (22 gauge)
- wood puck
- weight set

NOTE: Record all calibration data on the Calibrating the Force Sensor Data Collection Sheet.

Instructions

1. FlexiForce Sensor Pins

   A. The middle pin is non-active.
   B. Connect wires at FlexiForce sensor pin 1 and pin 3.
      Make sure that pin 1 DOES NOT TOUCH pin 3.
   C. To do this, use tape, solder or a pin connector.
2. **Breadboard Connection**
   A. Connect sensor pin 3 to ground (black) on the multimeter.
   B. Connect sensor pin 1 to resistance (red) on the multimeter.
   C. Set your multimeter to 20M ohms.

3. **Puck**
   Place a wooden puck on the center of your sensor.
   - A puck is an object that has the same diameter as your sensing area.
   - A puck is used when the force area being applied is greater than your sensing area.

4. **Weights**
   Place a weight on the center of your sensor. Make sure the weight is within your sensor weight max.
   A. Record the force and resistance values on the *Calibrating the Force Sensor Data Collection Sheet*.
   B. Repeat with different weight values.
A Robotic Hand with a Gentle Touch Activity
—Calibrating the Force Sensor Resistance/Conductance Instructions