

## Flex Sensor

<http://bildr.org/2012/11/flex-sensor-arduino/>

<http://arduinobasics.blogspot.gr/2011/05/arduino-uno-flex-sensor-and-leds.html>

Flex sensor works similar to Force Sensor (FSR).

The flex sensor is one of those parts often overlooked by the advanced user. But what if you need to check if something bent? Like a finger, or a doll arm. (A lot of toy prototypes seem to have this need).

Anytime you need to detect a flex, or bend, a flex sensor is probably the part for you. They come in a few different sizes ( small, large).

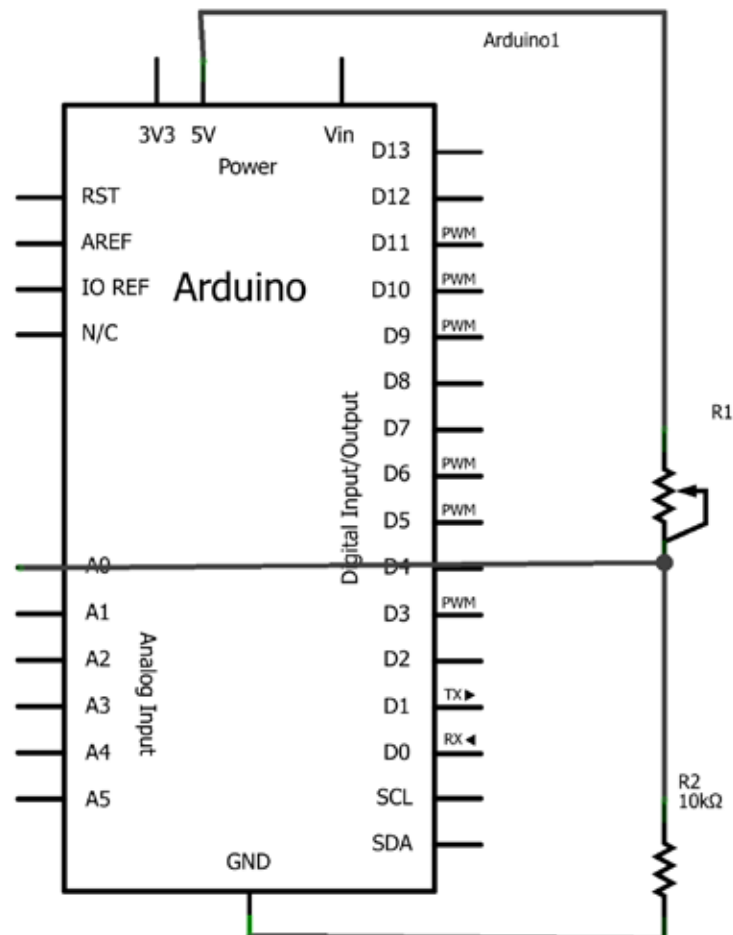
The flex sensor is basically a variable resistor that reacts to bends. Unbent it measures about  $22K\Omega$ , to  $40K\Omega$  when bend  $180^\circ$ . Note that the bend is only detected in one direction and the reading can be a bit shaky, so you will have best results detecting changes of at least  $10^\circ$ .

Also, make sure you don't bend the sensor at the base as it won't register as a change, and could break the leads. I always tape some thick board to the base of it to make it won't bend there.

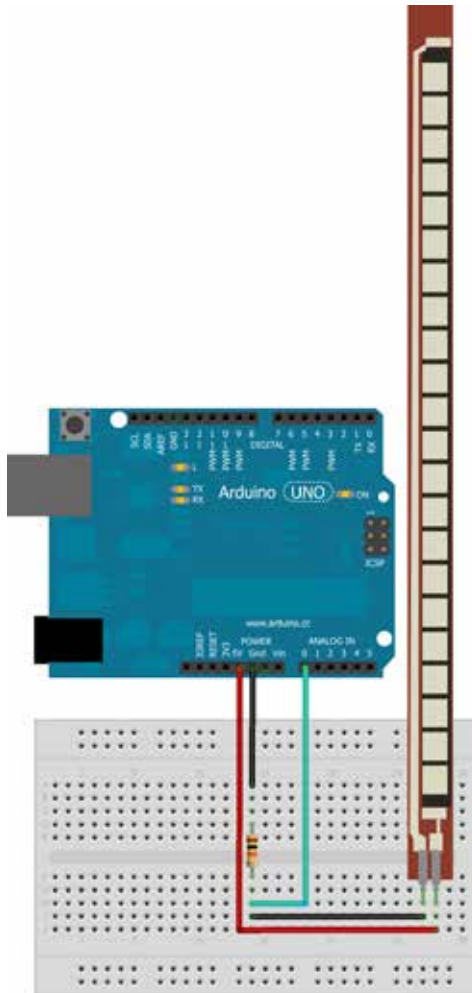
### HARDWARE REQUIRED

Arduino Board  
Breadboard  
(1) Flex Sensor  
(1)  $10K$  Resistor

### SCHEMATIC



IMAGE



CODE

```
// Learn how to use Force Sensor form ITP tutorials
// http://itp.nyu.edu/physcomp/sensors/Reports/ForceSensorResistor

int sensorPin = A0; // select the input pin for the potentiometer
int sensorValue = 0; // variable to store the value coming from the sensor

void setup() {
  Serial.begin(9600);
}

void loop() {
  // read the value from the sensor:
  sensorValue = analogRead(sensorPin);
  Serial.println(sensorValue);
}
```