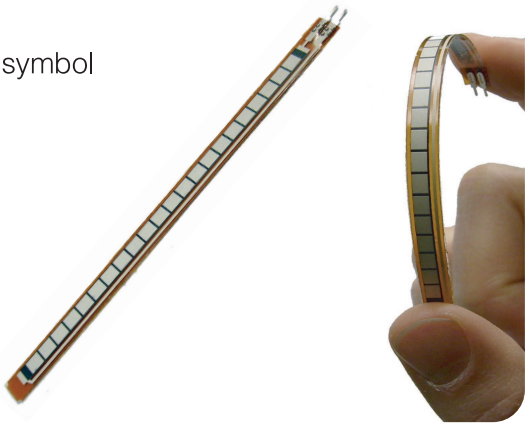
spectrasymbol



Flex Sensor FS

Special Edition Length

Features

- Angle Displacement Measurement
- Bends and Flexes physically with motion device
- Possible Uses
  - Robotics
  - Gaming (Virtual Motion)
  - Medical Devices
  - Computer Peripherals
  - Musical Instruments
  - Physical Therapy
- Simple Construction
- Low Profile

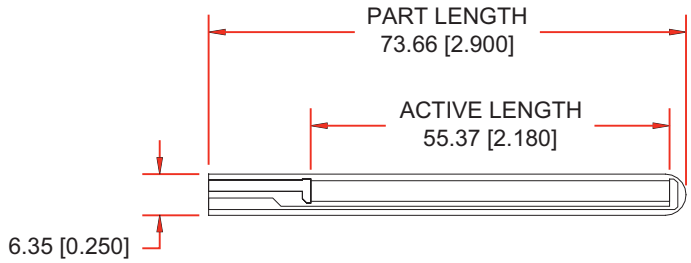
Mechanical Specifications

-Life Cycle: >1 million
-Height: ≤0.43mm (0.017")
-Temperature Range: -35°C to +80°C

Electrical Specifications

-Flat Resistance: 25K Ohms
-Resistance Tolerance: ±30%
-Bend Resistance Range: 45K to 125K Ohms (depending on bend radius)
-Power Rating : 0.50 Watts continuous. 1 Watt Peak

Dimensional Diagram - Stock Flex Sensor

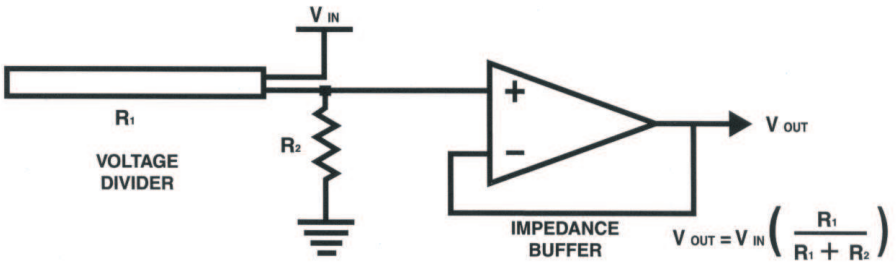


How to Order - Stock Flex Sensor

FS	–	L	–	0055	–	253	–	ST
Series		Model		Active Length		Resistance		Connectors
FS = Flex Sensor		L = Linear		0055 = 55.37mm		253 = 25K Ohms		ST = Solder Tab

How It Works

BASIC FLEX SENSOR CIRCUIT:

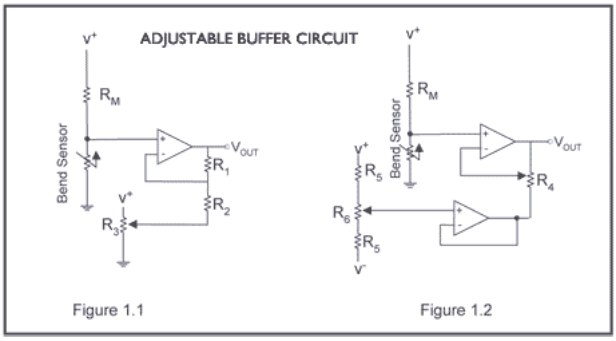


Following are notes from the ITP Flex Sensor Workshop

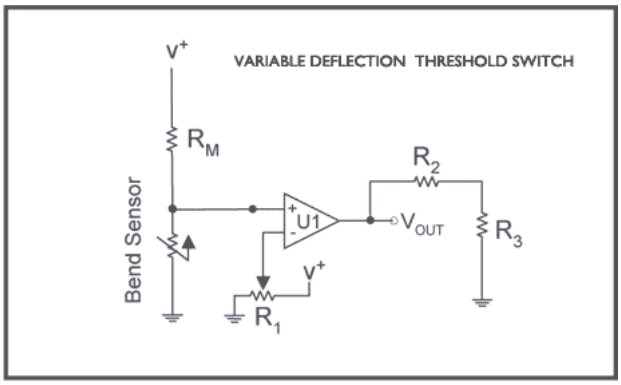
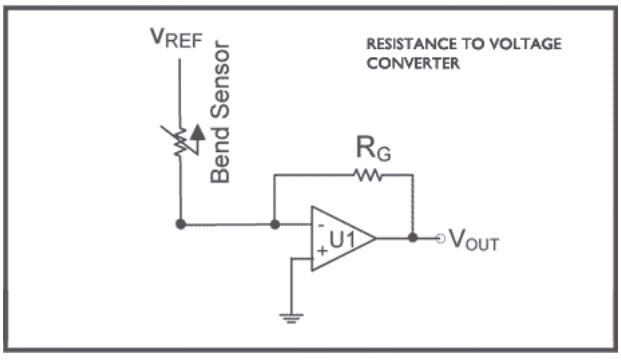
"The impedance buffer in the [Basic Flex Sensor Circuit] (above) is a single sided operational amplifier, used with these sensors because the low bias current of the op amp reduces errer due to source impedance of the flex sensor as voltage divider. Suggested op amps are the LM358 or LM324."

"You can also test your flex sensor using the simplest circut, and skip the op amp."

"Adjustable Buffer - a potentiometer can be added to the circuit to adjust the sensitivity range."



"Variable Deflection Threshold Switch - an op amp is used and outputs either high or low depending on the voltage of the inverting input. In this way you can use the flex sensor as a switch without going through a microcontroller."



"Resistance to Voltage Converter - use the sensor as the input of a resistance to voltage converter using a dual sided supply op-amp. A negative reference voltage will give a positive output. Should be used in situations when you want output at a low degree of bending."