

FlexiPot™

Low Power Position Sensor with Linear Output

FlexiForce's potentiometers, FlexiPot Strip and Ring, are customizable membrane position sensors with a flexible, ultra-thin, lightweight profile. Its low power requirements and linear output make it the ideal position sensor for test and measurement or embedded applications. Both FlexiPot Strip and Ring can be used with our test & measurement, prototyping, and embedding electronics, including the FlexiForce Sensor Characterization Kit, FlexiForce Prototyping Kit, FlexiForce Quickstart Board, and the ELF™ System. You can also use your own electronics, or multimeter.

FlexiPot Strip

FlexiPot Ring

Physical Properties

FlexiPot Strip*

Thickness	0.203 mm (0.008 in.)
Length of Rectangle Sensing Area	63.5 mm (2.50 in.)
Sensor Length	91.2 mm (3.59 in.)**
Width of Rectangle Sensing Area	4.3 mm (0.17 in.)
Sensor Width	11.6 mm (0.46 in.)
Connector	3-pin Male Square Pin
Substrate	Polyester

FlexiPot Ring*

Thickness	0.203 mm (0.008 in.)
Outer Sensing Area Diameter	42.4 mm (1.67 in.)
Sensor Length	74.4 mm (2.93 in.)**
Inner Sensing Area Diameter	33.8 mm (1.33 in.)
Total Outer Diameter	49.0 mm (1.93 in.)
Total Inner Diameter	27.2 mm (1.07 in.)
Connector	3-pin Male Square Pin
Substrate	Polyester



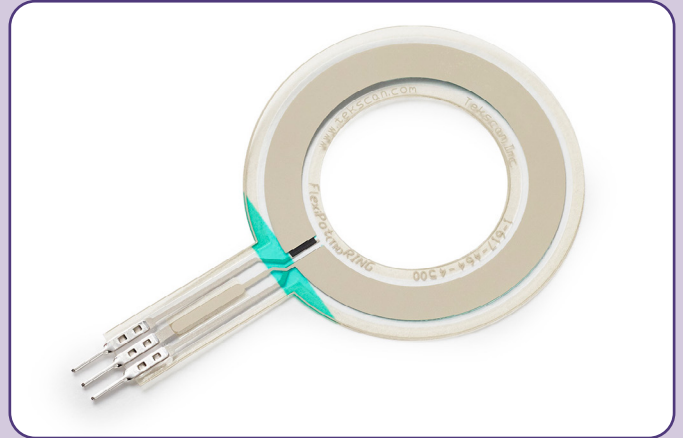
* Custom dimensions are available for the strip and ring sensors

**Length does not include pins, please add approximately 6mm (0.25 in.) for pin length

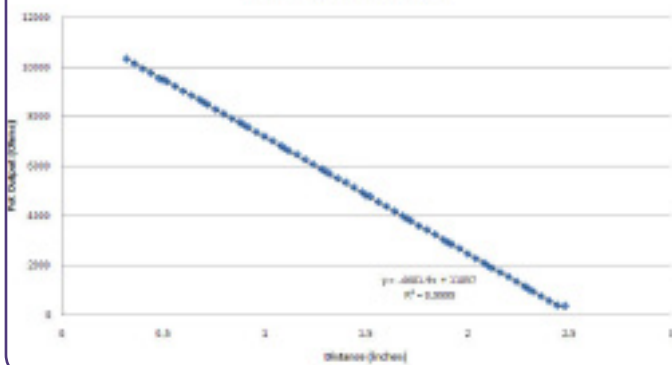
Example of FlexiPot Strip



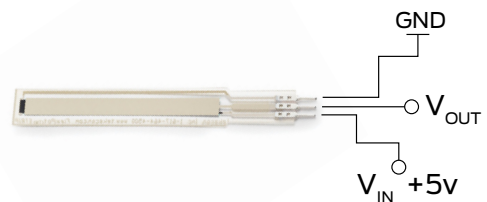
Example of FlexiPot Ring



Resistance vs. Position



Recommended Circuit



Apply V_{IN} to the pin that is connected to the shorter trace.

Typical Performance

Linearity (Error)	< $\pm 2.0\%$ of full scale
Repeatability	< $\pm 1.0\%$ of full scale
Spatial Resolution	< 2% of full scale
Operating Temperature	-40°C - 60°C (-40°F - 140°F)

Force reading change per degree of temperature change = $0.36\%/^{\circ}\text{C}$ ($\pm 0.2\%/^{\circ}\text{F}$)



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