Tekscan®

FlexiForce®

Standard Model A201

The FlexiForce A201 is our standard sensor and meets the requirements of most customers. The A201 is a thin and flexible piezoresistive force sensor that is available off-the-shelf in a variety of lengths for easy proof of concept. These ultra-thin sensors are ideal for non-intrusive force and pressure measurement in a variety of applications. This sensor is designed to use with your own electronics or multimeter.

BENEFITS

- Thin and flexible
- Easy to use
- Convenient and affordable

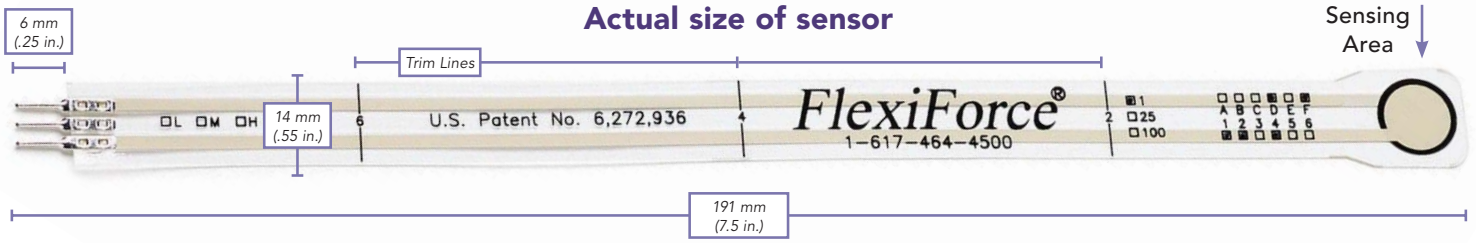
PHYSICAL PROPERTIES

Thickness	0.203 mm (0.008 in.)
Length	191 mm (7.5 in.)* (optional trimmed lengths: 152 mm (6 in.), 102 mm (4 in.), 51 mm (2 in.))
Width	14 mm (0.55 in.)
Sensing Area	9.53 mm (0.375 in.) diameter
Connector	3-pin Male Square Pin (center pin is inactive)
Substrate	Polyester (ex: Mylar)
Pin Spacing	2.54 mm (0.1 in.)

✓ROHS COMPLIANT

** Length does not include pins, please add approximately 6mm (0.25 in.) for pin length for a total length of approximately 197 mm (7.75 in).*

Actual size of sensor



STANDARD FORCE RANGES
(as tested with circuit shown below)

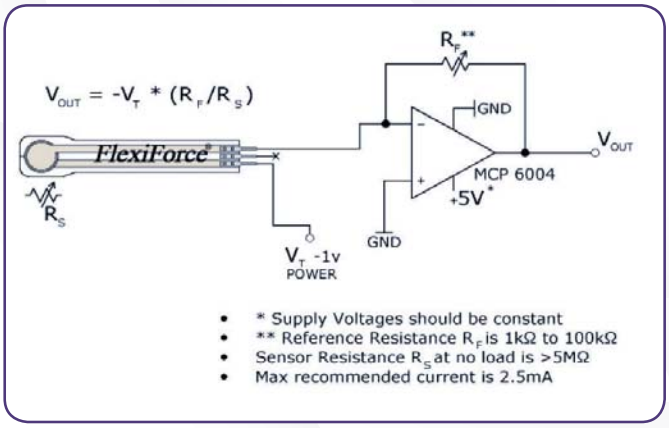
4.4 N (0 - 1 lb)

111 N (0 - 25 lb)

445 N (0 - 100 lb)

In order to measure forces above 100 lb (up to 1000 lb), apply a lower drive voltage (-0.5 V, -0.10 V, etc.) and reduce the resistance of the feedback resistor (1kΩ min.) Conversely, the sensitivity can be increased for measurement of lower forces by increasing the drive voltage or resistance of the feedback resistor.

Recommended Circuit



	Typical Performance	Evaluation Conditions
Linearity (Error)	< ±3%	Line drawn from 0 to 50% load
Repeatability	< ±2.5% of full scale	Conditioned sensor, 80% of full force applied
Hysteresis	< 4.5 % of full scale	Conditioned sensor, 80% of full force applied
Drift	< 5% per logarithmic time scale	Constant load of 111 N (25 lb)
Response Time	< 5µsec	Impact load, output recorded on oscilloscope
Operating Temperature	-40°C - 60°C (-40°F - 140°F)	Time required for the sensor to respond to an input force

- Force reading change per degree of temperature change = 0.36%/°C (±0.2%/°F)