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

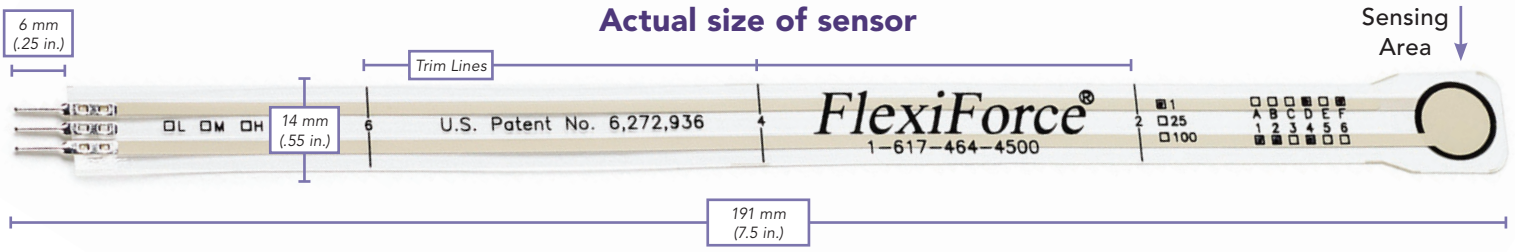
## PHYSICAL PROPERTIES

| | |
|---|---|
| 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)

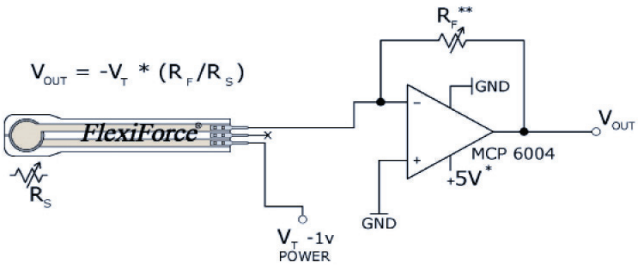
4.4 N (0 - 1 lb)

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




- * Supply Voltages should be constant
- ** Reference Resistance $R_F$ is 1kΩ to 100kΩ
- Sensor Resistance $R_S$ at no load is >5MΩ
- Max recommended current is 2.5mA

| | 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)


Tekscan®

*ISO 9001 & 13485*

PURCHASE TODAY ONLINE AT WWW.TEKSCAN.COM/STORE

+1.617.464.4283 | 1.800.248.3669 | info@tekscan.com | www.tekscan.com/flexiforce