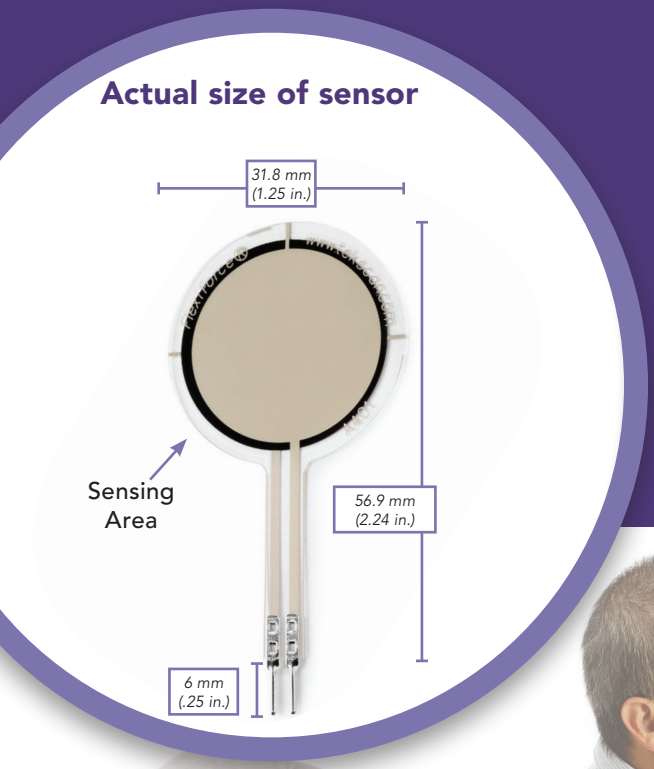



# FlexiForce™

## Standard Model A401

The FlexiForce A401 is our standard piezoresistive force sensor with the largest sensing area. It is available off-the-shelf for easy proof of concept and is also available in large volumes for design-in applications. The A401 can be used with our test & measurement, prototyping, and embedding electronics, including the OEM Development Kit, FlexiForce Quickstart Board, and the ELF™ System*. You can also use your own electronics, or multimeter.


## Physical Properties

| | |
|---|---|
| Thickness | 0.203 mm (0.008 in.) |
| Length | 56.9 mm (2.24 in.)** |
| Width | 31.8 mm (1.25 in.) |
| Sensing Area | 25.4 mm (1 in.) diameter |
| Connector | 2-pin Male Square Pin |
| Substrate | Polyester |
| Pin Spacing | 2.54 mm (0.1 in.) |

## Benefits

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

✓ROHS COMPLIANT

** Sensor will require an adapter/extender to connect to the ELF System. Contact your Tekscan representative for assistance.*

***Length does not include pins. Please add approximately 6 mm (0.25 in.) for pin length for a total length of approximately 32 mm (1.25 in).*



*ISO 9001 Compliant & 13485 Registered*

Tekscan™

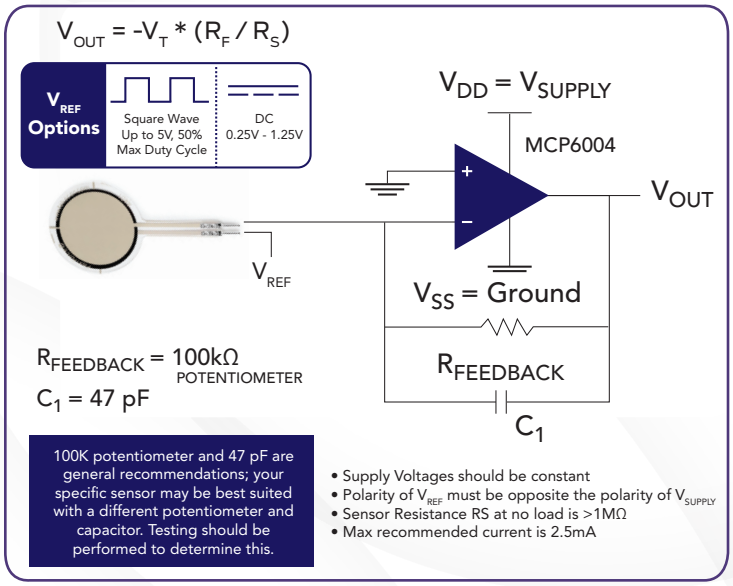
## Standard Force Ranges
### as Tested with Circuit Shown

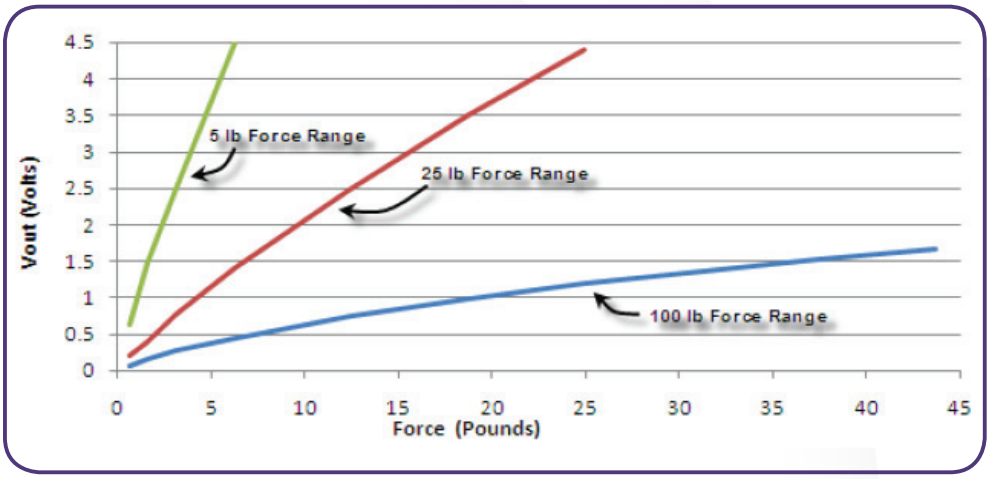
111 N (0 - 25 lb) †

† This sensor can measure up to 31,138 N (7,000 lb). The force range can be extended by reducing the drive voltage, VT, or the resistance value of the feedback resistor, RF. Conversely, the sensitivity can be increased for measurement of lower forces by increasing VT or RF.

Sensor output is a function of many variables, including interface materials. Therefore, Tekscan recommends the user calibrate each sensor for the application. The graph below-right is an illustration of how a sensor can be used to measure varying force ranges by changing the feedback resistor (the graph below-right should not be used as a calibration chart).

## Recommended Circuit




| | Typical Performance | Evaluation Conditions |
|---|---|---|
| Linearity (Error) | < ±3% of full scale | Line drawn from 0 to 50% load |
| Repeatability | < ±2.5% | 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) | Convection and conduction heat sources |
| Acceptance Criteria | ±40% sensor-to-sensor variation | |

*

***All data above was collected utilizing an Op Amp Circuit.** If your application cannot allow an Op Amp Circuit, visit www.tekscan.com/flexiforce-integration-guides, or contact a FlexiForce Applications Engineer.

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

PURCHASE TODAY ONLINE AT WWW.TEKSCAN.COM/STORE

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