

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. The A201 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.



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 |
| Pin Spacing | 2.54 mm (0.1 in.) |

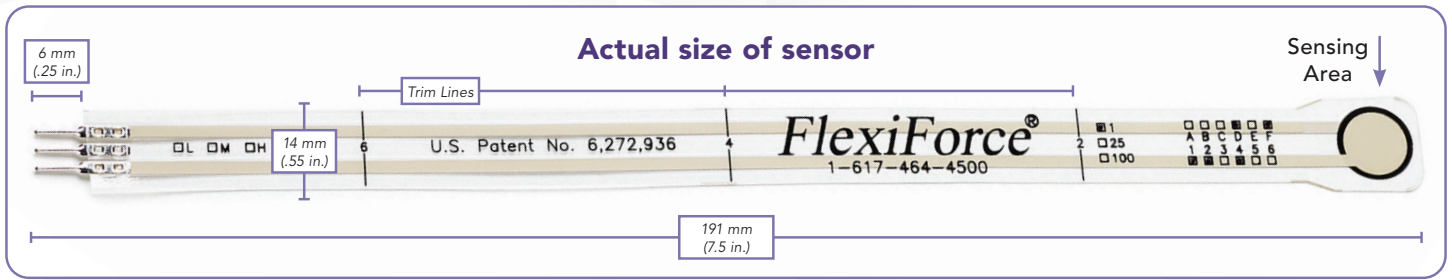
✓ ROHS COMPLIANT

* 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 197 mm (7.75 in.).

| | 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 |
| Durability | ≥ 3 million actuations | Perpendicular load, room temperature, 22 N (5 lb) |
| Temperature Sensitivity | 0.36%/°C (± 0.2%/°F) | Conductive heating |

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



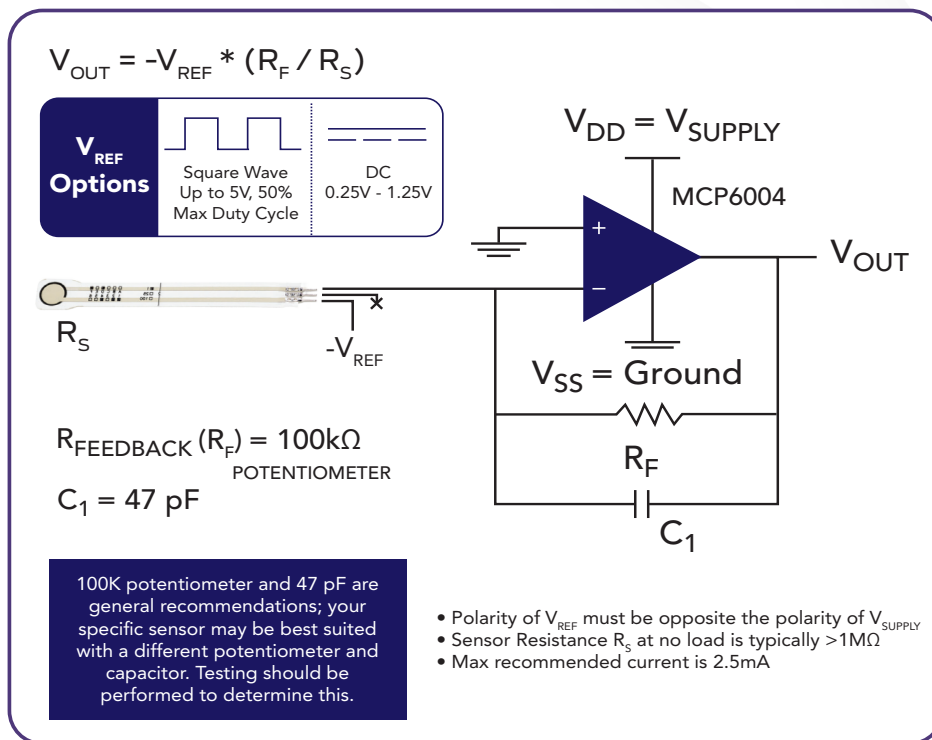
Standard Force Ranges as Tested with Circuit Shown

- 4.4 N (0 - 1 lb)
- 111 N (0 - 25 lb)
- 445 N (0 - 100 lb)†

† This sensor can measure up to 4,448 N (1,000 lb). In order to measure higher forces, apply a lower drive voltage (-0.5 V, -0.25 V, etc.) and reduce the resistance of the feedback resistor (1kΩ min.). To measure lower forces, apply a higher drive voltage and increase the resistance of the feedback resistor.

Sensor output is a function of many variables, including interface materials. Therefore, Tekscan recommends the user calibrate each sensor for the application.

Recommended Circuit



PURCHASE TODAY ONLINE AT WWW.TEKSCAN.COM/STORE

