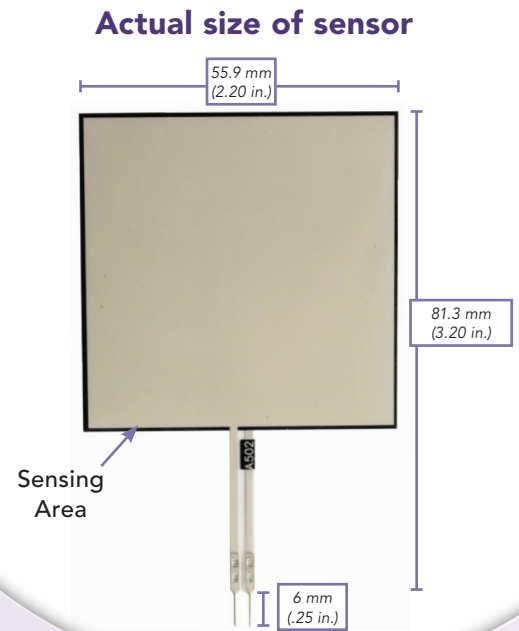


FlexiForce™

Standard Model A502

The FlexiForce A502 is a square sensor, with a sensing area measuring at 50.8 mm x 50.8 mm (2 in. x 2 in.). This sensor is available off-the-shelf for easy proof of concept. The A502 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.



BENEFITS

- Thin and flexible
- Ideal for prototyping and integration
- Easy to use

PHYSICAL PROPERTIES

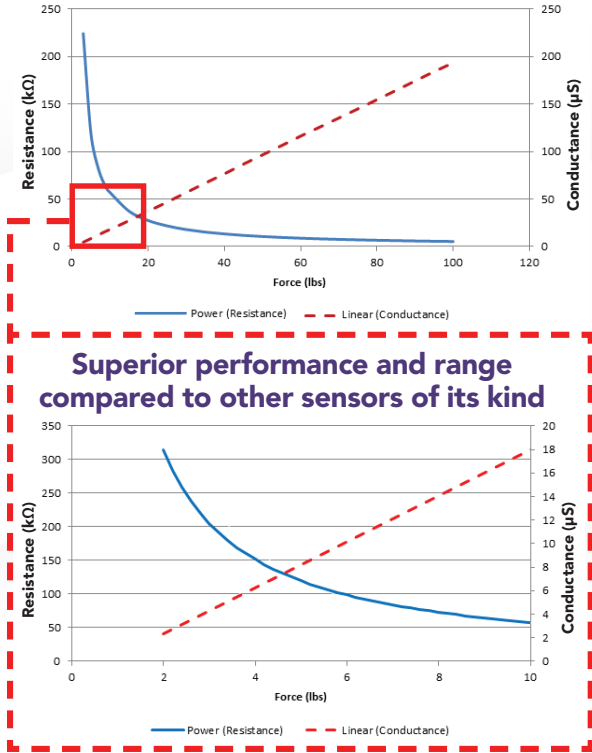
| | |
|--------------|--|
| Thickness | 0.203 mm (0.008 in.) |
| Length | 81.3 mm (3.20 in.)** |
| Width | 55.9 mm (2.20 in.) |
| Sensing Area | 50.8 mm x 50.8 mm (2 in. x 2 in.) |
| Connector | 2-pin Male Square Pin |
| Substrate | Polyester |
| Pin Spacing | 2.54 mm (0.1 in.) |
| Force Range | The A502 sensor is available in a 0-222 N (0-50 lb) range, specified with Tekscan electronics. This model is linear through a much lower range of 0-22 N (0-5 lb), and is capable of measuring loads up to 44,482 N (10,000 lb). |

✓ 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 87 mm (3.4 in.).

Typical Performance



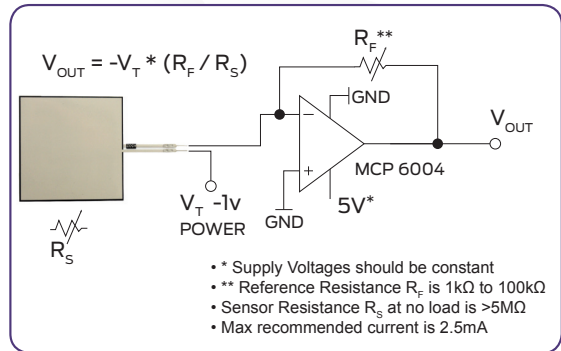
| Voltage (V) | Force (lbs) | Resistance (kΩ) | Conductance (μS) |
|-------------|-------------|-----------------|------------------|
| 0.5 | 20 | 34.36 | 29.11 |
| 0.5 | 40 | 17.14 | 58.33 |
| 0.5 | 60 | 11.57 | 86.41 |
| 0.5 | 80 | 8.71 | 114.76 |
| 0.5 | 100 | 6.97 | 143.54 |

- Sensor resistance measured 20 seconds after applied load
- Sensor loaded through a polycarbonate puck equal to 68% (2.72 in²) of total active area
- Sensor was not attached to any drive circuitry

In order to measure higher forces, apply a lower drive voltage (-0.5 V, -0.10 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



| | Typical Performance | Evaluation Conditions |
|-----------------------|---------------------------------|---|
| Linearity (Error) | < ±3% of full scale | 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)



ISO 9001 & 13485



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