

FlexiForce™

Standard Model HT201

The FlexiForce HT201 is our enhanced thin and flexible piezoresistive force sensor ideal for high temperature applications. The HT201 is capable of measuring force and pressure in environments as hot as 400°F (approximately 200°C). These ultra-thin sensors are ideal for non-intrusive force and pressure measurement in a variety of applications. The HT201 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	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	Polyimide
Pin Spacing	2.54 mm (0.1 in.)

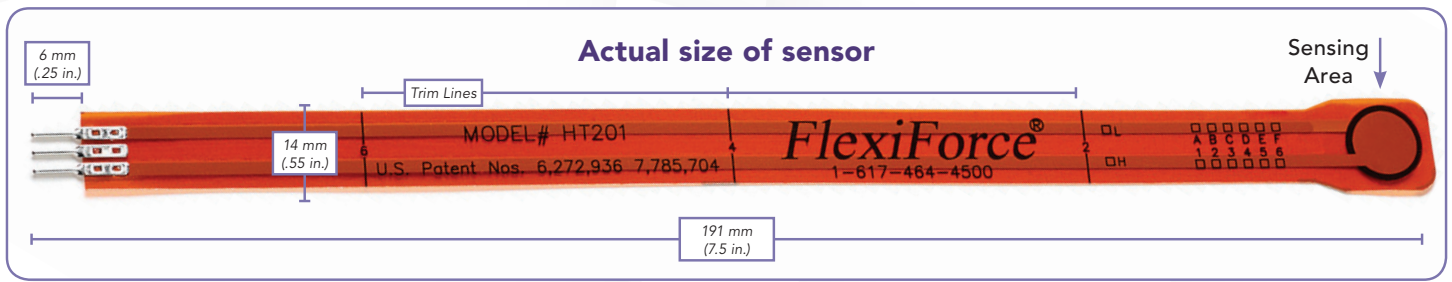
Benefits

- Operates in temperatures up to approximately 200°C (400°F)
- Thin and flexible
- Easy to use
- Available off-the-shelf

✓ 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 31.75 mm (0.25 in.) for pin length to equal a total length of 203.2 mm (8 in.).



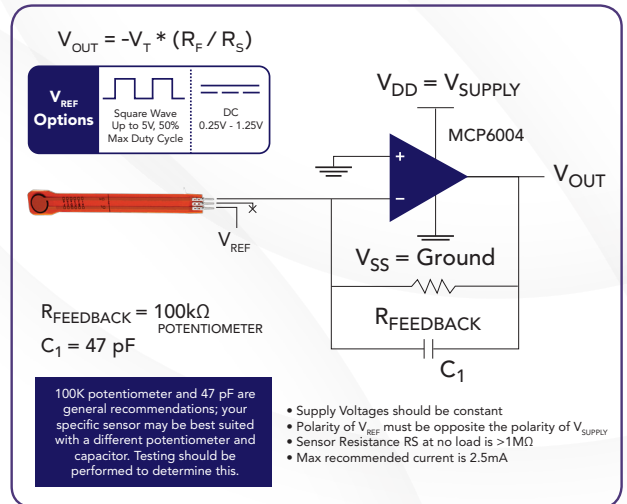
Standard Force Ranges as Tested with Circuit Shown

222 N (0 - 50 lb)[†]

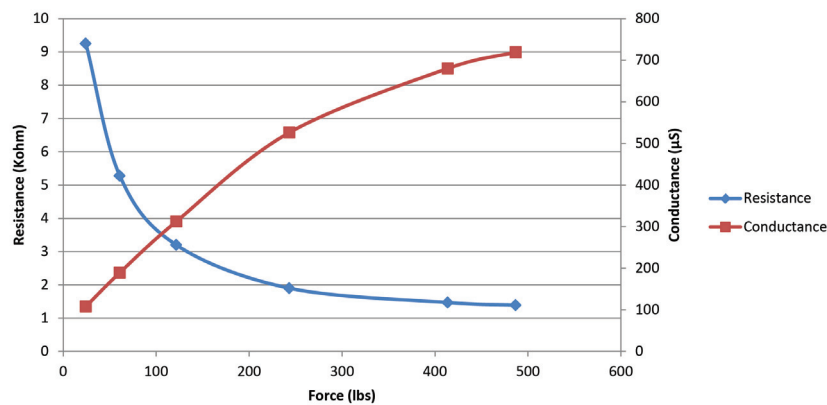
[†]This sensor can measure up to 2,224 N (500 lb). In order to measure forces outside specified ranges, use recommended circuit and adjust drive voltage and/or reference resistance.

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 is an illustration of how a sensor can be used to measure varying force ranges by changing the feedback resistor (the graph below should not be used as a calibration chart).

Recommended Circuit



HT201 Sensor Resistance and Conductance vs Force



Typical Performance at Ambient Temperature

Linearity (Error)	< ±3% of full scale**
Repeatability	< ±3.5%
Hysteresis	3.6% of full scale
Drift	3.3% per logarithmic time scale
Temperature Range	-40°C - 204°C (-40°F - 400°F)
Output Change/Degree F	0.16%
Acceptance Criteria	±40% sensor-to-sensor variation

*
All data to the left 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. Specifications based on pressures up to 500 psi and represent the average value throughout a range of temperatures up to 400°F.

**Linearity up to 889 N (200 lb).



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+1.617.464.4283

| 1.800.248.3669

| info@tekscan.com

| www.tekscan.com/flexiforce