

## X-Y Sensor Dual Cantilever Beam Load Cell



The SMD X-Y Sensor uses high technology sputtered thin film strain gauge technology to create a compact, rugged sensor with exceptional long-term stability. It is ideal for applications requiring sensing of forces in two orthogonal axes.

The X-Y Sensor provides independent voltage outputs, proportional to the force applied, in two axes. Loading at an arbitrary angle produces the expected sine/cosine variation in signal from the two gauges.

Long-term stability, low temperature coefficients and low hysteresis make the SMD X-Y Sensor an excellent choice for applications where reliable and stable longterm performance is required.

Custom characteristics can be provided for high-volume OEM users.

### Applications

□ Aircraft

Powered wheelchairs

□ Construction equipment

□ All-terrain vehicles

□ Electronic gaming

### Special Features

- Compact design
  - High strength stainless steel element
  - □ Long-term zero stability
  - □ Ideal for OEM applications
  - Low power consumption

### **Key Specifications**

- □ Capacity 14Ncm
- 5.0KΩ full Wheatstone bridge
- □ 0.1% Linearity
- □ 0.05% repeatability
- □ 200% safe overload

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# X-Y Sensor

## Dual Cantilever Beam Load Cell

#### Schematic (dimensions in mm)



### Specification

#### Ranges:

Maximum Load (Safe): Maximum Load (Ultimate): Bridge Configuration: Bridge Resistance: **Recommended Excitation Voltage:** Insulation Resistance: Full Scale Output (FSO) Zero Balance: Repeatability: Linearity: Hysteresis: Creep/Creep Recovery (30 min) Temperature Effect on Zero: Temperature Effect on Span: Stability: **Operating Temperature:** Body Material: Cable (standard):

14Ncm (e.g. 4N at 35mm from end of beam) Custom ranges available 200% FSO 500% FSO Dual 4 or 5 wire Full Bridge 5000 Ω 10 V dc/ac (20 V max) 1000 MΩ @ 50 V dc 1.1 mV/V nominal ±3 mV/V ±0.05% FSO ±0.1% FSO ±0.07% FSO ±0.05% FSO ±0.035% FSO/°C ±0.035% Reading/°C 0.3% FSO/yr -40 to +105°C 17-4 PH stainless steel 150mm 32 AWG