

0717-4323-99

Low Profile Single/Dual Axis Electrolytic Tilt Sensor



Patent 6,249,984

True Tilt™

Description

The **0717-4323-99** True Tilt™ Sensor represents a new advancement in electrolytic sensor technology. Robust all metal construction provides durability as well as superior dimensional tolerances, which equates to excellent sensor-to-sensor electrical performance. This sensor is ideal for economical, commercial market applications requiring high production quantities and first rate accuracy

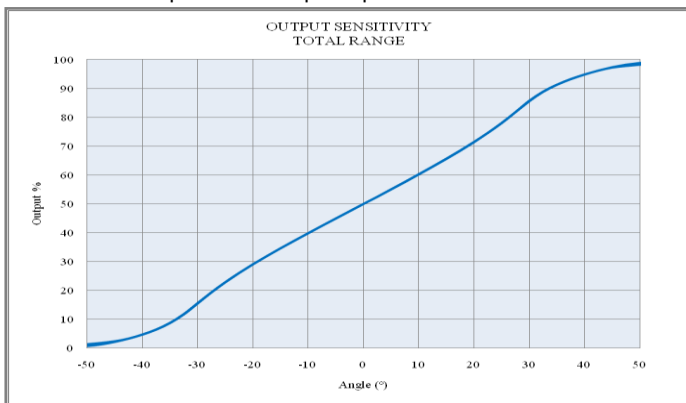
- Angle Range (max) $\pm 50^\circ$
- Linear Range $\pm 15^\circ$
- Resolution ± 0.005 degrees
- Repeatability ± 0.1 degrees

Operating Specifications

Operating Range	$\pm 50^\circ$
Linear Range	$\pm 15^\circ$
Null Current (max.)	0.2mA (continuous)
Null Impedance	55K Ohms (25°C)
Repeatability	$\pm 0.1^\circ$
Resolution	$\leq 0.005^\circ$
Symmetry (typ.)	5%
Null Offset ¹ (max)	$\pm 3.0^\circ$
Mech. Crosstalk / Deg. (to 20°)	$\pm 0.025^\circ$
Temperature Coefficient	
Null	20 arc sec / °C
Scale	0.1% / °C
Stability @ 24 hrs	$\pm 0.1^\circ$
Operating Temperature	-40°C to + 85°C
Storage Temperature	-55°C to + 100°C
Time Constant (1)	≤ 100 msec
Material	Magnetic

1 Difference between electrical and mechanical null

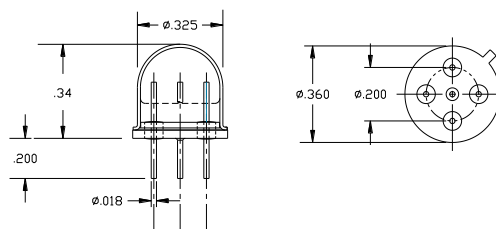
NOTE: Output sensitivity's scale factor may be modified to Individual requirements upon special order.



Applications Include

- Wheel Alignment
- Navigation and GPS Compensation
- Lift Platform
- Tip Protection
- RV Leveling
- Antenna Positioning

Physical Dimensions

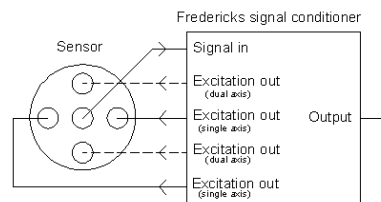


Diameter – Cap	0.325" (8.25mm)
Diameter – Flange	0.360" (9.14mm)
Lead length	0.20" (5.0mm)
Lead diameter	0.020" (0.5mm)
Lead spacing (center to center)	0.1" (2.5mm)

Linearity Specifications

Range (0° to 3°)	Linearity $\leq 0.01\%$
Range (3° to 8°)	Linearity 2%
Range (8° to 15°)	Linearity 3%

Sensor Test Circuitry



Tests were conducted by exciting the outer electrodes of the sensor in a single axis mode using the Fredericks Universal signal conditioner. Output curve and linearity specifications are shown above. Information on electrolytic tilt sensor signal conditioning is available on the Fredericks web site at www.frederickscom.com.

Caution! – Ensure that all test and operating circuits are entirely free of direct current. Direct current will cause level damage and/or instability

Note! – The housing (center pin) is the active output signal. The unit must be electrically isolated.