

# Inclinometers

## SI-705B

The Columbia Model SI-705B is an electric tilt sensor based upon force balance accelerometer technology. The Model SI-705B will produce a high level low impedance output proportional to the sine of the tilt angle. Unique electronic damping and desensitization circuitry allows tilt measurements in strong vibration and shock environments.

The Model SI-705B is self-contained requiring no additional signal conditioning in most applications. The Model SI-705B is well suited for many OEM and industrial applications and are intended for applications such as platform stabilization, surface mapping and measuring tilt angles in remote locations. **Consult the factory for customized versions of these sensors.**

- Integrated Signal Conditioning Included
- Various Ranges Available



### SPECIFICATIONS

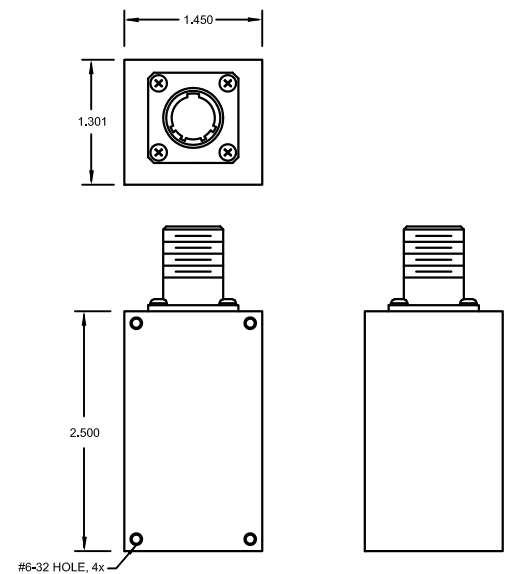
Operational	SI-705B
Ranges Available	$\pm 15^\circ$ , $\pm 30^\circ$ , $\pm 45^\circ$ , $\pm 90^\circ$
Output Voltage	$\pm 5\text{VDC}$ at full Range Output Proportional to the Sine of the Angle
Recommended Load	100K $\Omega$ or Greater
Excitation	$\pm 12$ to $\pm 15\text{VDC}$ <15mA Each Supply
Output Noise	<3mV RMS
Non-Linearity	$\pm 0.2\%$ Full Range
Non-Repeatability	$\pm 0.1\%$ Full Range
Scale Factor Tolerance	$\pm 1\%$
Scale Factor Temp. Coefficient	$\pm 0.025\%/^\circ\text{C}$
Zero Bias	$\pm 0.2\%$ Full Range
Zero Bias Temp. Coefficient	$\pm 0.001\%$ Full Range/ $^\circ\text{C}$
Resolution	$\pm 0.001\%$ Full Range
Case Alignment	$\pm 0.5^\circ$

### Environmental

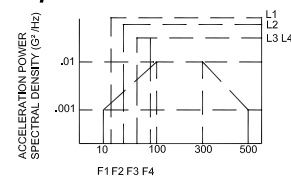
Temperature, Operating	-50 to $+85^\circ\text{C}$
Temperature, Storage	-50 to $+85^\circ\text{C}$
Random Vibration (2 to 2000 Hz)	10g p-p
Shock Survival	125g, 0.5mS
Humidity	95% R.H.

### Physical

Weight	5oz. Maximum
Size	2.50" L x 1.45" W x 1.301" H (6.35cm L x 3.68cm W x 3.30cm H)
Case Material	Anodized Aluminum
Sealing	Environmental
Electrical Interface	D38999/20WA35PN or Equiv.



### Vibration Spectrum:



### I/O Connector:

SI-705B			
Pin	Function	Pin	Function
1	+15VDC	4	Signal Return
2	Signal Out	5	Power Ground
3	-15VDC	6	Not Used