



## LCI Series Flexure Suspension Servo Inclinometer



### Applications

- Robotics Orientation
- Antenna Leveling
- Laboratory Testing

The LCI Series Inclinometer is a  $\pm 14.5^\circ$  to  $\pm 90^\circ$  device designed for low frequency tilt sensing applications. LCI units are characterized by excellent turn on repeatability and very low hysteresis.

### LCI Series Flexure Suspension Servo Inclinometer Specifications

#### Performance

Input Range, ° (Note 1)	$\pm 14.5$	$\pm 30$	$\pm 90$
Full Range Output (FRO), VDC $\pm 0.5\%$	$\pm 5.0$	$\pm 5.0$	$\pm 5.0$
Nonlinearity % FRO max (Note 2)	0.02	0.02	0.05
Scale Factor, volts/g nominal	20.0	10.0	5.0
Scale Factor Temp Sens, PPM/°C max	100	100	100
Natural Frequency, Hz nominal (Note 3)	5	5	5
Bandwidth (-3dB), Hz nominal	5	5	5
Input Axis Misalignment, ° max	0.50	1.00	1.00
Bias, volts max	0.050	0.050	0.025
Zero Tilt Temp Sens, volts/°C max	0.0005	0.0003	0.0003
Resolution and Threshold, $\mu$ rad max	1	1	1

#### Electrical

Input Voltage, VDC	$\pm 12$ to $\pm 18$
Input Current, mA nominal	$\pm 25$
Output Impedance, ohms nominal	100 ohms
Noise, Vrms max	0.0005

#### Environmental

Operating Temp Range	-55 to +85°C
Survival Temp Range	-60 to +90°C
Shock	3-foot drop
Seal	Epoxy

**NOTE 1:** Full Range is defined as "from negative full input angle to positive full input angle."

The Inclinometer output is proportional to the sine of the tilt angle.

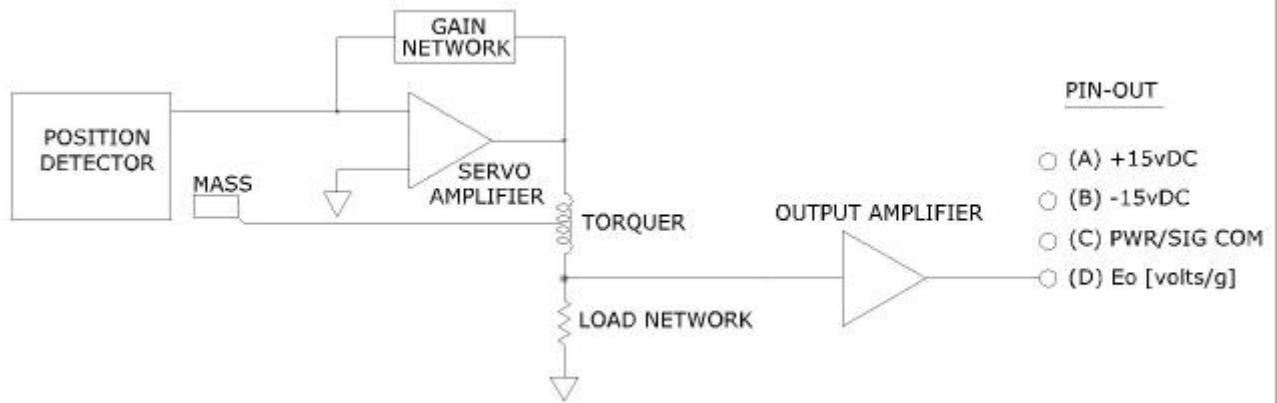
**NOTE 2:** Referenced to theoretical sine value independent of misalignment.

**NOTE 3:** Output phase angle =  $-90^\circ$ .



LCI Series Accelerometer

Block Diagram



Outline Diagram

