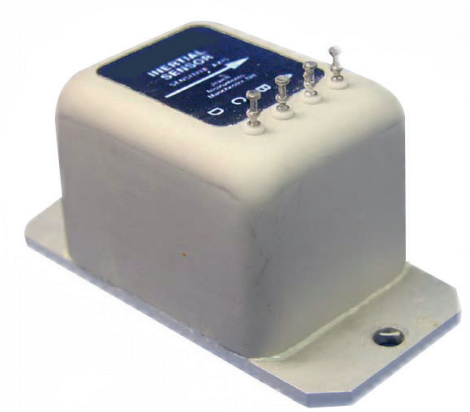
LCI Analog Inclinometer

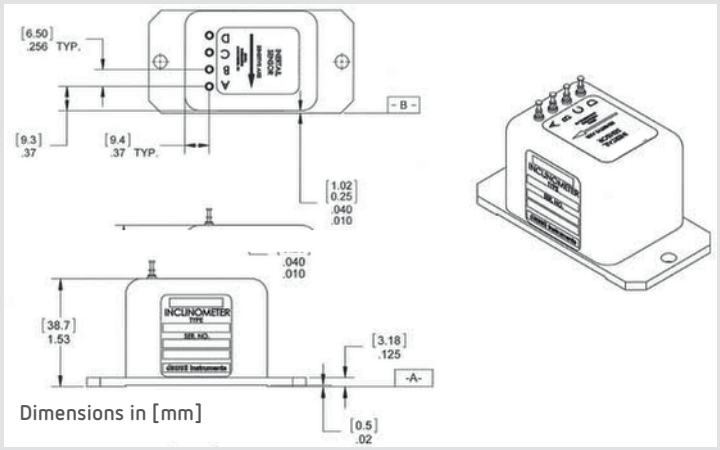
Introduction

The LCI Series flexure suspension servo inclinometer is a ±3° to ±90° device designed for low frequency tilt sensing applications. LCI units are characterized by excellent turn on repeatability and very low hysteresis.

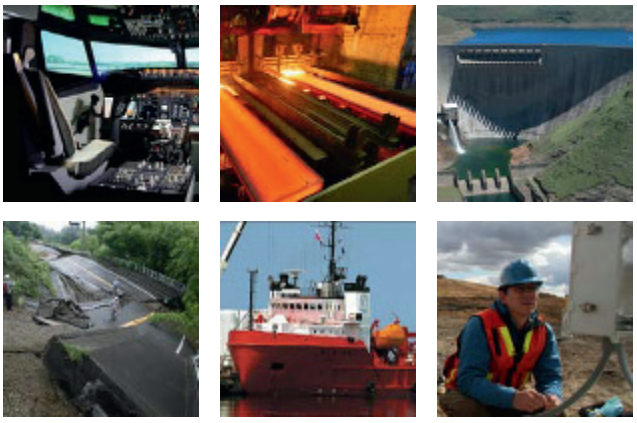


Features

- Standard 5 Hz Bandwidth Cutoff
- Economically Priced - High Accuracy
- Resolves Angles > 1µrad
- 100 ppm/°C Scale Factor Temp Sensitivity
- -55°C to +85°C Operating Temp Range



Dimensions in [mm]



Application

- Robotics Orientation
- Antenna Leveling
- Laboratory Testing
- Telescope Vertical Reference Calibration
- Vehicle Wheel Align
- Movement Detection System
- Educational Research
- Train Tilt Control Systems
- Train Automated Controls
- Tunnel Tilt Measurement
- Track Monitoring and Testing

Pin out

A	+15 VDC
B	-15 VDC
C	Power/Sig Common
D	Eo [Volts/g]

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Performance specifications: LCI

Performance

Input range (°)	±3	±5	±10	±14.5	±30	±90
Full range output VDC (FRO) VDC ± 0.5%[1]			±5.0			
Scale factor (V/g, nominal)	95.5	57.4	28.8	20	10	5
Scale factor temp. Sensitivity (ppm/°c, max)				100		
Nonlinearity (%FRO) max[2]	0.05	0.05	0.05	0.02	0.02	0.05
Bandwidth (-3db hz, nominal)				5		
Transverse axis misalignment (° max)				0.7		
0° output range (Volts)	±0.1	±0.6	±0.075	±0.05	±0.05	±0.025
0° output temp. sensitivity (Volts/°C, max)	0.0048	0.0029	0.0014	0.0003	0.0003	0.0003
Resolution & threshhold (µradian)				1		

Electrical

Numer of axes	1
Input voltage range (VDC)[4]	±12 to ±18
Input current (mA, max)	30
Output impedance (Ohms, nominal)	100
Noise (Vrms max)	0.001

Environmental

Operating temperature range	-55° to +85°C
Survival temperature range	-60° to +90°C
Shock	3 foot drop
Seal	SEAL MIL-STD-202, Mtd. 112

Notes

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.
2. Nonlinearity is specified as deviation of output referenced to theoretical sine function value, independent of misalignment.

*Specifications subject to change without notice on account of continued product development

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Ordering information

±3.0	LCI-3	459999-004
±5.0	LCI-5	459999-005
±10.0	LCI-10	459999-006
±14.5	LCI-14.5	459999-001
±30.0	LCI-30	459999-002
±90.0	LCI-90	459999-003

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