



# LSI Series

DC-Operated, Gravity-Referenced  
Servo Inclinometer

## Features

- Fully self-contained - connect to a DC power source and a readout or control device for a complete operating system
- High-level DC output signal proportional to sine of the angle of tilt
- $\pm 14.5^\circ$ ,  $\pm 30^\circ$  &  $\pm 90^\circ$  ranges available

## Applications

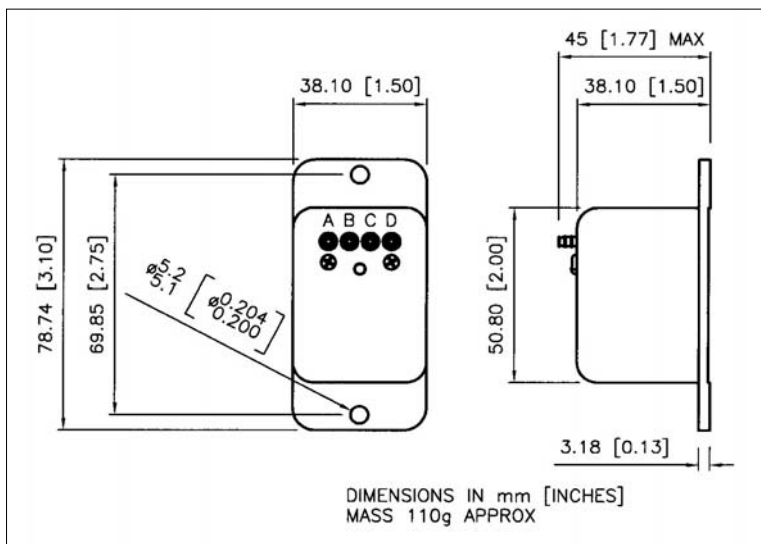
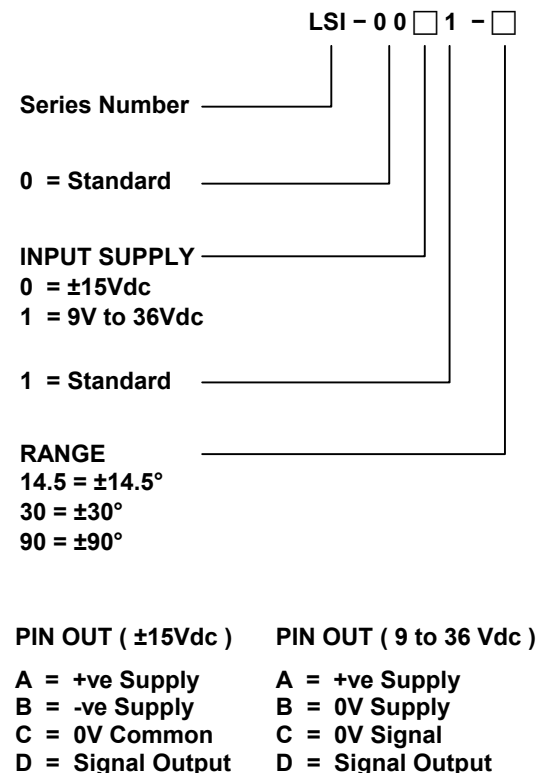
- Level control of machines and structures
- Safety control of cranes and lifting equipment
- Civil engineering studies
- Marine ballast transfer systems



## Description

The LSI Series is a precision gravity referenced servo inclinometer that can be used for a wide variety of industrial and military applications. Versions are available in a choice of angular ranges and power supply options. Electrical terminations are via solder posts.

### DESIGNATION & ORDERING CODE



In North America: Email: [nasales@sherbornesensors.com](mailto:nasales@sherbornesensors.com)  
Rest of World: Email: [sales@sherbornesensors.com](mailto:sales@sherbornesensors.com)  
Website: [www.sherbornesensors.com](http://www.sherbornesensors.com)



Sherborne Sensors, a Nova Metrix company



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**Sherborne Sensors**  
... the first choice in precision

## Environmental Characteristics

|                             |    |                       |
|-----------------------------|----|-----------------------|
| Operating Temperature Range | °C | -20 to 80             |
| Survival Temperature Range  | °C | -40 to 90             |
| Shock Survival              |    | 500g, 0.5msec, ½ sine |
| Environmental Sealing       |    | IP64                  |

## Specifications @ 20°C

|  |   | ±14.5°              | ±30°                      | ±90° |
|--|---|---------------------|---------------------------|------|
| Excitation Voltage options                   | Volts dc  |                     | ±15 or +9 to +36          |      |
| Power Consumption                            | W (max)   | ±15V version = ±0.6 | +9V to +36V version = 1.5 |      |
| Full Range Output (FRO) options (see note 1) | Volts dc  |                     | ±5 ±0.5%                  |      |
| Output Impedance                             | Ω   |                     | less than 10              |      |
| Output Noise (DC to 10kHz)                   | µV/√Hz (max)  | ±15V version = 2    | +9V to +36V version = 20  |      |
| Non-Linearity (see note 2)                   | % FRO (max)   | 0.02                | 0.02                      | 0.05 |
| Non-Repeatability                            | % FRO (max)   |                     | 0.004                     |      |
| -3 dB Frequency                              | Hz  |                     | 5                         |      |
| Cross-axis sensitivity (see note 3)          | % FRO (max)   |                     | ± 1                       |      |
| Zero Offset (see note 4)                     | Volts dc (max)  |                     | ± 0.050                   |      |
| Thermal Zero Shift                           | %FRO/°C (max)   |                     | ± 0.003                   |      |
| Thermal Sensitivity                          | %Reading/°C (max)   |                     | ± 0.01                    |      |
| EMC Directive                                | EN 61326: 1998  |                     |                           |      |
| EMC Emissions                                | EN 55022: 1998, 30 MHz to 1 GHz   |                     |                           |      |
| EMC Immunity                                 | EN61000-4-2 1995 inc A1: 1998 & A2: 2001, ±4 kV<br>EN61000-4-3: 2002, 10 V/m<br>EN61000-4-4: 2004, ± 1 kV<br>EN61000-4-4: 2004, ± 2 kV<br>EN61000-4-6 1996 inc A1: 2001, 3 Vrms<br>EN61000-4-6 1996 inc A1: 2001, 10 Vrms<br>EN61000-4-8: 1994 Incorporating Amendment A1: 2001, 30 A/m |                     |                           |      |

## Notes

1. Full Range Output is defined as the full angular excursion from positive to negative, i.e. ±90° = 180°
2. Non-linearity is determined by the method of least squares
3. Cross-axis Sensitivity is the output of unit when tilted to full range angle in cross-axis.
4. Zero offset is specified under static conditions with no vibration inputs

## How to Order

Specify model type, input supply and range.

e.g. LSI-0001-30 = ±15Vdc supply, ±30°  
LSI-0011-90 = +9Vdc to +36Vdc supply, ±90° degree



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