

# Schaevitz® LSOC/LSOP

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
- $\pm 1^\circ$  to  $\pm 90^\circ$  ranges available
- Extremely rugged, withstands 1500g shock

## Applications

- Bore-hole mapping, dam and rock shifts and other geophysical, seismic and civil engineering studies
- Ballast transfer systems for offshore barges, ships and other marine applications
- Level control and calibration systems
- Pipeline levelling, setting tilt of grading machines, crane overturning-moment alarms, and other heavy duty construction control requirements
- Large machinery installation and other electronic level applications

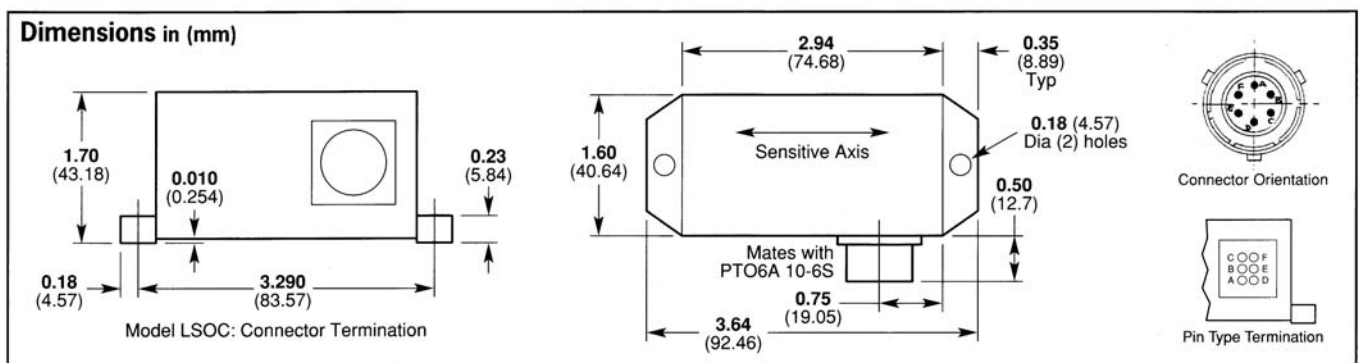


## LSOC/LSOP

The LSO Series is a high precision gravity referenced servo inclinometer that can be used for a wide variety of industrial and military applications. Models are available in a variety of ranges with low impedance output signal. Electrical terminations are via 6-way connector (LSOC) or solder pins (LSOP).

## Electrical Connections

- Pin A – Supply +15Vdc
- Pin B – 0V common
- Pin C – Supply - 15Vdc
- Pin D – Output
- Pin E – Not used
- Pin F – Self Test



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## Environmental Characteristics

Operating Temperature Range	°C	-18 to 70
Survival Temperature Range	°C	-40 to 70
Constant Acceleration Overload	g	50
Shock Survival		1500g, 0.5msec, ½ sine
Vibration Endurance		35g rms, 20 Hz to 2000 Hz sinusoidal
Environmental Sealing		IP65

## Specifications by Range @ 20°C

Range		±1°	±3°	±14.5°	±30°	±90°
Excitation Voltage	Volts dc			±12 to ±18		
Current Consumption	mA (nom)			±15		
Full Range Output (FRO) (see note 1)	Volts dc			±5		
Output Standardisation	% FRO			±1		
Output Impedance	Ω			less than 10		
Output Noise	V rms (max)			0.002		
Non-Linearity (see note 2)	% FRO (max)	0.05	0.05	0.02	0.02	0.05
Non-Repeatability	% FRO (max)	0.04	0.02	0.004	0.002	0.001
Resolution	arc seconds	0.1	0.2	1.0	2.0	4.0
-3 dB Frequency	Hz	10	15	30	40	55
Sensitive Axis-to-Case Misalignment	deg (max)	±0.1	±0.15	±0.25	±0.5	±1.0
Cross-axis sensitivity (see note 3)	% FRO (max)			0.1		
Zero Offset (see note 4)	Volts dc (max)	±0.05	±0.04	±0.03	±0.02	±0.02
Thermal Zero Shift	%FRO/°C (max)	0.05	0.03	0.01	0.005	0.003
Thermal Sensitivity	%Reading/°C (max)	0.04	0.03	0.01	0.006	0.006

## Notes

1. Full Range Output is defined as the full angular excursion from positive to negative, i.e.  $\pm 90^\circ = 180^\circ$
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 with appropriate range e.g. LSOC-14.5 – fitted with connector  $\pm 14.5^\circ$  range  
LSOP-30 – fitted with solder pins  $\pm 30^\circ$  range

Please specify Mating Connector 3CON-0009 with LSOC if required.