

Schaevitz® LSW Series

DC-Operated, Gravity-Referenced
Weather Proof Servo Inclinometer

Features

- *Weatherproof to IP67* – stainless steel construction*
- *Waterproof moulded cable system – field replaceable*
- *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*
- *±3° to ±90° ranges available*
- *Extremely rugged, withstands 1500g shock*

Applications

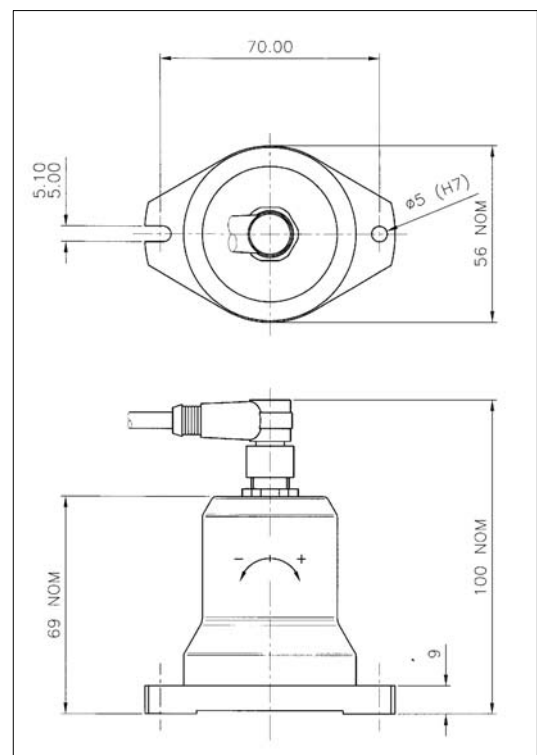
- *Bore-hole mapping, dam and rock shifts and other geophysical and seismic studies*
- *Offshore*
- *Military*
- *Civil Engineering*

The LSW Series are high precision closed loop gravity referenced tilt sensors designed for demanding all-weather applications. The sensor is constructed from stainless steel and features a moulded IP68 connector/cable system that can be field replaced if the cable becomes damaged. Models are available in a variety of angular ranges.

Pin 1 (Brown)	: +12V to +18V dc
Pin 2 (White)	: Output
Pin 3 (Blue)	: 0V
Pin 4 (Black)	: -12V to -18V dc

*IP67 = "Dust proof, protected from temporary immersion in water 1 meter deep for 30 minutes"

Supplied with mating connector with 2m of cable.
Option of other cable lengths.



Schaevitz® LSW Series

DC-Operated, Gravity-Referenced
Weather Proof Servo Inclinometer



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		IP67

Specifications by Range @ 20°C

Range		±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 (max)		10		
Output Noise	Vrms (max)		0.002		
Non-Linearity (see note 2)	% FRO	0.05	0.02	0.02	0.05
Non-Repeatability	% FRO	0.01	0.002	0.001	0.0005
Resolution	arc seconds	0.2	1.0	2.0	4.0
-3 dB Frequency	Hz	15	30	40	55
Sensitive Axis-to-Case Misalignment	deg (max)	±0.15	±0.25	±0.5	±1.0
Cross-axis Sensitivity (see note 3)	% FRO		0.1		
Zero Offset (see note 4)	Volts dc	±0.04	±0.04	±0.02	±0.02
Thermal Zero Shift	%FRO/°C	0.03	0.01	0.005	0.003
Thermal Sensitivity	%Reading/°C	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. ±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 with appropriate range
e.g. LSW-14.5 denotes an inclinometer
with a range ±14.5°