



Sherborne **Sensors**

... the first choice in precision

LSW Inclinometer

Weatherproof, Gravity-Referenced



Sensor design and manufacture from a world leader in load, acceleration and inclination

Sherborne Sensors is a specialist sensor and instrumentation manufacturer that provides solutions for test and measurement, industrial, manufacturing, R&D, aerospace and defence applications globally.

www.sherbornesensors.com



In North America: Email: nasales@sherbornesensors.com
Rest of World: Email: sales@sherbornesensors.com
Website: www.sherbornesensors.com

Sherborne Sensors, a Nova Metrix company **NOVA METRIX**

LSW Weatherproof Servo Inclinometer

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.

Features

- Weatherproof to IP67* – stainless steel construction
- Waterproof molded cable system – field replaceable
- High level DC output signal proportional to sine of the angle of tilt
- $\pm 3^\circ$ to $\pm 90^\circ$ ranges available
- Extremely rugged, withstands 1500g shock

Applications

- Bore-hole mapping, dam and rock shifts and other geophysical and seismic studies
- Harsh environments where dust, water and or shock are present
- Offshore applications where robust, weatherproof
- Civil Engineering applications

Performance Specifications @ 20°C					
Range		$\pm 3^\circ$	$\pm 14.5^\circ$	$\pm 30^\circ$	$\pm 90^\circ$
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 (DC to 10kHz)	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	± 0.50	± 1.0
Cross Axis Sensitivity (see note 3)	% FRO (max)	0.2			
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 Shift	% Reading/°C	± 0.03	± 0.01	± 0.006	± 0.006

“Rated to IP67 and capable of withstanding up to 1500g of shock, the LSW is ideally suited to applications in harsh and challenging environments”

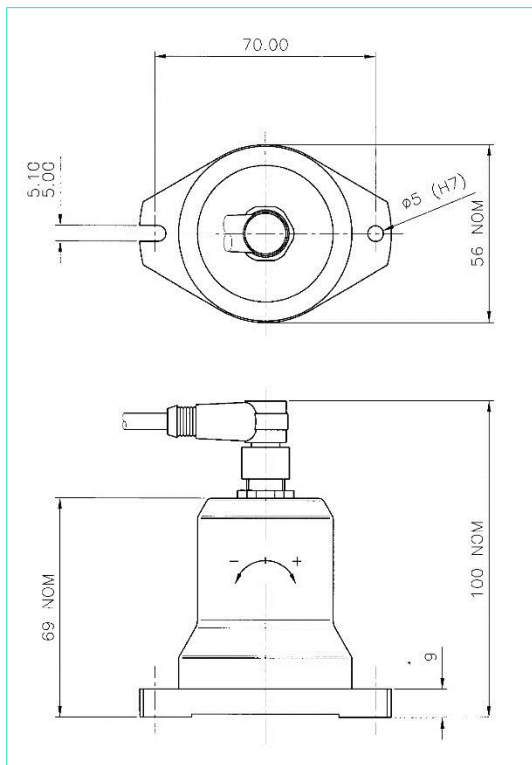


In North America: Email: nasales@sherbomesensors.com
 Rest of World: Email: sales@sherbomesensors.com
 Website: www.sherbomesensors.com

Sherborne Sensors, a Nova Metrix company

Environmental Specifications		
EMC Directive	EN61326: 1998	
EMC Emissions	EN55022: 1998	30 MHz to 1 GHz
EMC Immunity	EN61000-4-2: 1995 inc A1: 1998 & A2: 2001	±4 kV
	EN61000-4-3: 2002	10 V/m
	EN61000-4-4: 2004	± 1 kV
	EN61000-4-6: 1996 inc A1: 2001	3 Vrms
	EN61000-4-6: 2007	10 Vrms
EN61000-4-8: 1994 inc A1: 2001	30 A/m	
Constant Acceleration Overload	50g	
Shock Survival	1500g, 0.5 ms, ½ sine	
Vibration Endurance	35g RMS, 20 Hz to 2000 Hz sinusoidal	
Environmental Sealing	IP65	

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 the unit when tilted to full range angle in cross axis	
4. Zero offset is specified under static conditions with no vibration inputs	



- 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 metre deep for 30 minutes"

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

How to Order: Example LSW -14.5

LSW -14.5 is a standard LSW series sensor with a range $\pm 14.5^\circ$



In North America: Email: nasales@sherbomesensors.com
 Rest of World: Email: sales@sherbomesensors.com
 Website: www.sherbomesensors.com

Sherborne Sensors, a Nova Metrix company **NOVA METRIX**



Accessories

Sherborne Sensors offers a broad range of accessories and services to enhance the performance and capabilities of our sensor products, including:

- line voltage and battery enabled power supplies
- specialized mating connectors
- cable assemblies
- high performance digital displays and universal input indicators
- repair and calibration services for all brands of accelerometers, inclinometers and load cells

Customisation

With extensive in-house engineering capabilities, Sherborne Sensors offers not only a large range of standard sensors but also unique expertise in the design, development and manufacture of specialized sensors and systems that meet specific customer application and performance requirements.

The need to customise our sensors to the specific requirements of an application to ensure they deliver improved safety and efficiency, with optimized cost and return-on-investment is often critical to project success.

Using customer driven elements of sensor design, output and performance, Sherborne Sensors will tailor a device to meet almost any application. Major cost and performance benefits may be realized by specifying a customized sensor where performance and mechanical design are optimally matched to specific application demands.

Contact Us

US

PO Box 1092
Lynnfield, MA
01940-9992

Tel : (877) 486 1766
Fax: (201) 847 1394

UK

1 Ringway Centre
Edison Road Basingstoke
Hampshire RG21 6YH

Tel: +44 (0)1256 630 300
Fax: +44 (0)870 444 0729

Email us: sales@sherbornesensors.com

Twitter: [@sherbornesensor](https://twitter.com/sherbornesensor)

LinkedIn: [sherbornesensors](https://www.linkedin.com/company/sherbornesensors)