



# Sherborne **Sensors**

.... the first choice in precision

## DSIC Inclinometer

Digital Servo, Single / Dual Axis



### 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.

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Sherborne Sensors, a Nova Matrix company **NX NOVA METRIX**

The DSIC utilises a servo-inclinometer element to sense inclination to a very high accuracy with almost zero hysteresis. Internal temperature and linearity compensation is programmed into the DSIC during calibration. This ensures that the output is never outside a 0.08° error margin from true input angle, at any temperature and any angle within its compensated range.

## Features

- Industry-standard RS485 output
- 19-bit analog to digital conversion
- 9 to 18 or 18 to 36 Vdc unregulated supply options
- Dynamic filtering, fast response & high vibration rejection
- Built-in temperature sensing and active compensation
- User-configurable output bandwidth

## Applications

- Ordnance Aiming Systems
- Rail track monitoring
- Optical sighting equipment
- Seismic and civil engineering analysis
- Precision platform level control
- Variable temperature environments

Performance		
Angular range	±5°, ±15°, ±60°	
Resolution	0.001°	
Accuracy	0.08°	Note 1
Cross-axis sensitivity	0.2%	of equivalent sensitive axis output
Repeatability	0.008°	Note 2
Response	20Hz maximum	
Environmental		
Temperature range: compensated	-20°C to +70°C	
operable	-40°C to +80°C	
Mechanical shock survival	1,000g 0.5ms half sine	
Sealing	IP65	
EMC		
Emissions	EN 55022: 2006	
Immunity	EN 61000-4-3: 2002	EN 61000-4-8: 1994
	EN 61000-4-4: 2004	EN 61000-4-2: 1996
Output		
Representation	sine of angle	
Measurement update rate	1, 2, 5, 10, 20, 50, 60, or 100	readings per second (set to 10 by default)
Communication	RS485	ASCII
Bus speeds	RS485	2400, 4800, 9600, 19k2, 38k4, 57k6, 76k8, 115k2, or 230k4 bits per second (set to 115k2 by default)
Electrical		
Supply voltage	9 to 18	18 to 36 Volts
Supply current	100 (single-axis) 140 (dual-axis)	50 (single-axis) 70 (dual-axis) mA (max.)
Physical		
Dimensions (LxWxH)	65 x 65 x 45 mm	
Weight	400 g (nom.)	
Notes		
1. This is the absolute error of the DSI combining linearity, calibration uncertainties, and all thermal offset and sensitivity errors over the compensated temperature and measurement ranges.		
2. Maximum deviation over 50 calibrations at constant ambient temperature.		



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Sherborne Sensors, a Nova Metrix company

### How to Order:

**DSIC** - [ ] - [ ] - [ ] - [ ]

**Number of Axes**

- 1 = Single Axis
- 2 = Dual Axis

**Baseplate**

- 0 = No Baseplate
- B = Baseplate attached
- 1 = Special

**Input Supply**

- 5 = 12V (9 to 18V) dc
- 6 = 24V (18 to 24V) dc

**Output Interface**

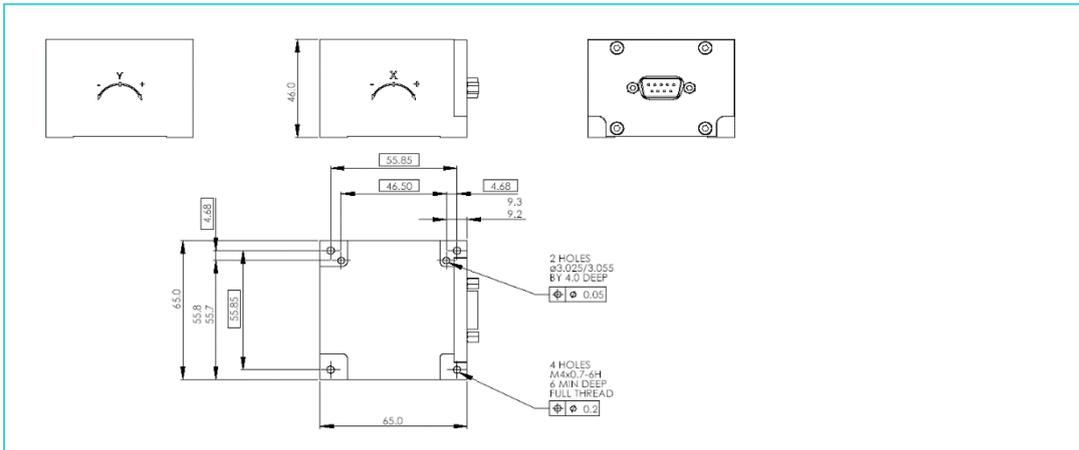
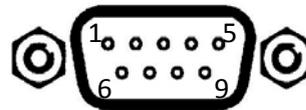
- 1 = RS485 ASCII

**Range**

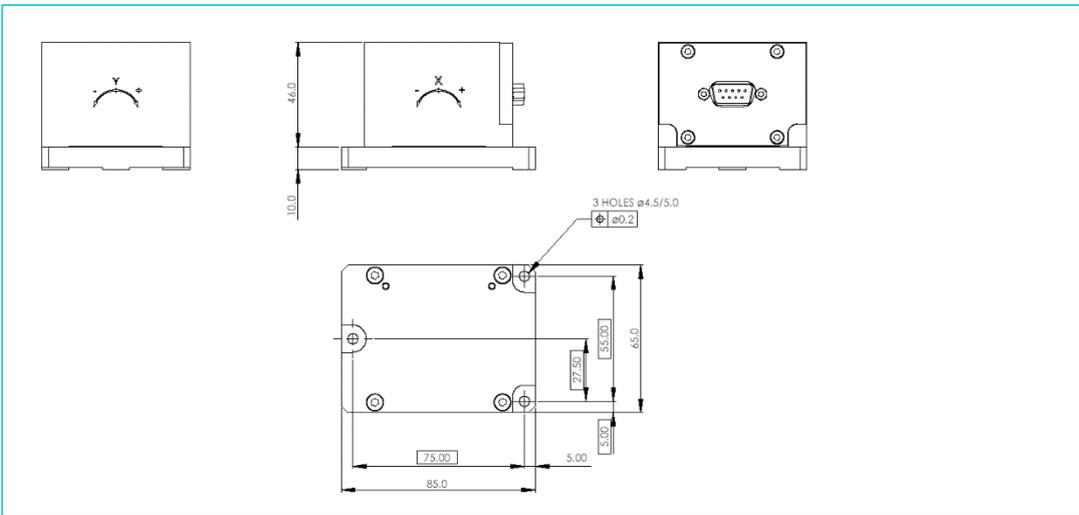
- 5 = ± 5 °
- 15 = ± 15 °
- 60 = ± 60 °

### Electrical Connections:

- Pin 1 – Supply +
- Pin 2 – Supply -
- Pin 3 – Data +
- Pin 4 – Data -
- Pin 5 – Data GND
- Pin 6 – Factory setup, do not use
- Pin 7 – Factory setup, do not use
- Pin 8 – Not Connected
- Pin 9 – Not Connected



No Baseplate



Baseplate



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## 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

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