



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 Metrix 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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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

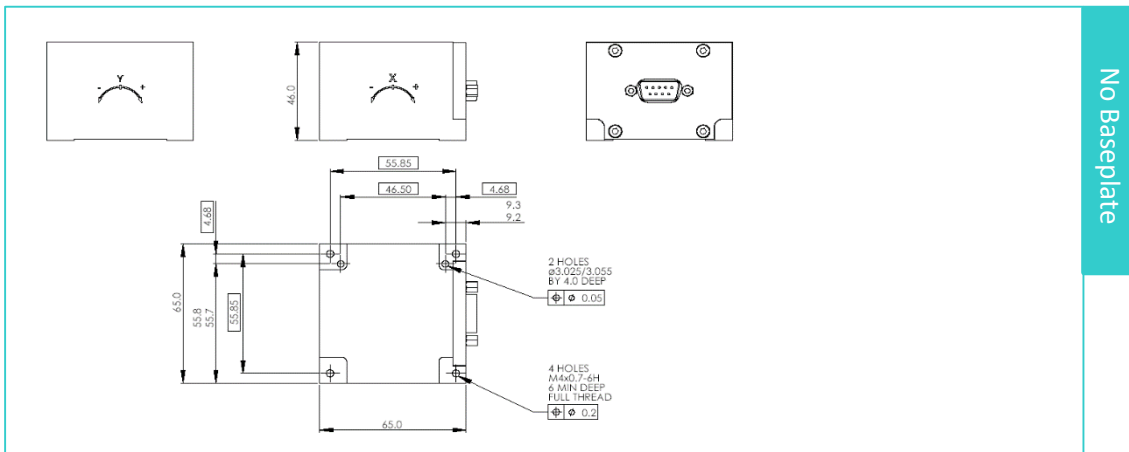
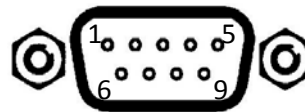
- 1 = RS485 ASCII

Range

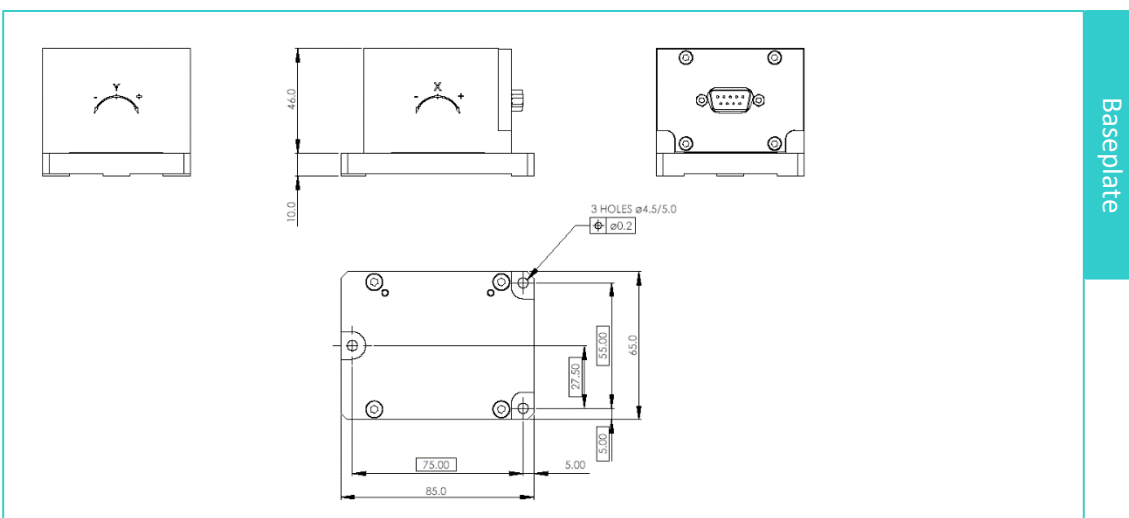
- 5 = ± 5 °
- 15 = ± 15 °
- 60 = ± 60 °

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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