



Sherborne **Sensors**

.... the first choice in precision

T133 Inclinometer

DC-Operated, Single / Dual Axis, MEMS



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 **NOVA METRIX**

T133 MEMS Inclinometer

The T133 Series is a mems based inclinometer that can be used for a wide variety of industrial and military applications. Models are available in a variety of ranges with voltage, 4-20mA or serial outputs.

Features

- Fully self-contained connect to a DC power source and a readout or control device for a complete operating system
- Single and Dual Axis Variant Available
- $\pm 10^\circ \pm 20^\circ \pm 40^\circ \pm 60^\circ \pm 80^\circ$ ranges available
- Low power consumption ideal for wireless applications
- voltage, 4-20mA or RS232 serial outputs

Applications

- 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

General Specifications	
Application	Single or Dual Axis Operation
Measurement Range	$\pm 10^\circ, \pm 20^\circ, \pm 40^\circ, \pm 60^\circ, \pm 80^\circ$
Absolute Accuracy	0.10°
Resolution	0.01°
Electrical Specifications	
Supply Voltage	10 – 30 VDC
Power Consumption (no load)	≤ 0.7 W
EMC: Emitted Interference	DIN EN 61000-6-4
EMC: Noise Immunity	DIN EN 61000-6-2
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Environmental Specifications	
Operating Temperature	-30 °C fixed (-22 °F) - +70 °C (+158 °F)
Storage Temperature	-40 °C (-40 °F) – +85 °C (+185 °F)
Temperature Gradient	0.004°/ K
Protection Class	IP66/IP67
Shock Resistance	≤ 100 g (half sine 6 ms, EN 60068-2-27)
Vibration Resistance	1.5 mm (10 Hz – 58 Hz) & ≤ 20 g (58 Hz to 2000 Hz)
Mechanical Specifications	
Housing Material	Fibre-Reinforced PBT (Polybutylene Terephthalate)
Potting Material	PUR (Polyurethane)
Weight	170 g (0.37 lb)



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Interface	
Interfaces	Analog Voltage 0-10 V, 4-20mA, RS-232 options
Settling Time	125 ms
Output Type	Voltage 0 – 10 V or 4-20mA
Min Load Resistance	5 k Ω
Linearity	\pm 0.02%
Electrical Connection	
Connection Type	Cable
Cable Length	1 m , 2 m or 5 m
Wire Cross Section	0.14 mm ² / AWG 26
Material / Type	PVC
Cable Diameter	6 mm (0.24 in)
Minimum Bend Radius	30 mm (1.18 in) fixed, 60 mm (2.36 in) flexing

How to Order:

Specify the T133 part number as follows:

Example : T133 dual axis, 1M cable, 0-10V output, 10° range is part number T133-2111-10

T133 – [] [] [] [] 1 [] – []

Number of Axes

1 = Single Axis
2 = Dual Axis

Cable Length

1 = 1M
2 = 2M
5 = 5M

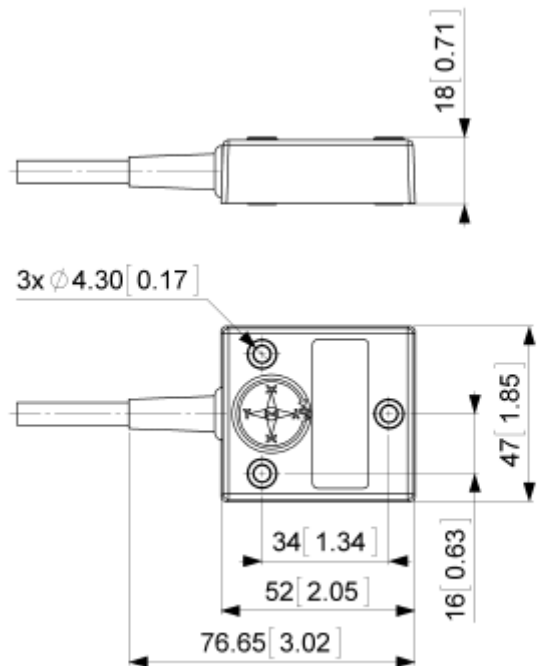
Output Interface

1 = 0-10V
2 = 4-20mA

Range

10 = +/- 10 degrees
20 = +/- 20 degrees
40 = +/- 40 degrees
60 = +/- 60 degrees
80 = +/- 80 degrees

Dimensions:



Electrical Connections:

Power: Supply Red

GND: Yellow

X-Axis, Voltage Output: Green

Y-Axis, Voltage Output : Blue (DUAL AXIS ONLY)

Shielding: Shield



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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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