

**TWINCLINO 3000**  
**DUAL-AXIS**  
**SUBSEA**  
**INCLINATION**  
**SENSOR**  
**PRODUCT SHEETS**

Twinclino 3000: Dual-axis subsea inclination sensor designed to withstand harsh operating conditions



# TWINCLINO 3000 DUAL-AXIS SUBSEA INCLINATION SENSOR SPECIFICATIONS

## GENERAL

	METRIC	IMPERIAL
Main dimensions	See detailed drawings	
Material housing	Duplex	
Weight in air	14 kg	30.9 lbs
Depth rating	3000 msw	9842 ft
Operational temperature range	-20°C - +50 °C	-4 °F - +122 °F

## ELECTRICAL – SENSOR A

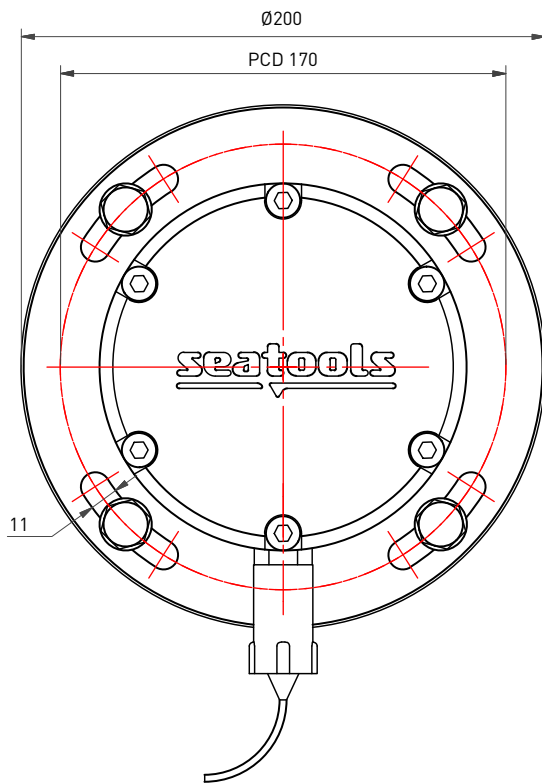
Supply voltage	10 -30 VDC
Output signal	4 – 20 mA or 0 - 5V
Current consumption	< 60 mA (voltage output), < 100 mA (current output)
Maximum measurement range	± 90°
Non-linearity	< 0.05% of FS (< 0.02% of FS optional)
Non repeatability & hysteresis	0.001% of FS
Bias thermal drift	0.01% of FS/°C
Sensitivity thermal drift	0.01% of measure/°C

## ELECTRICAL – SENSOR B

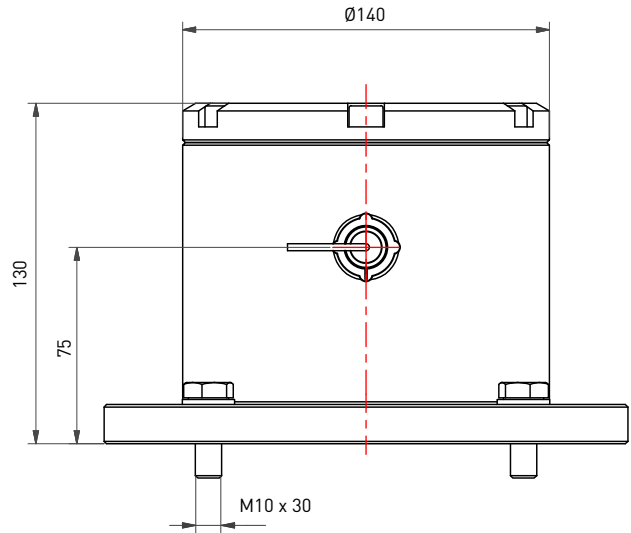
Supply voltage	10 -30 VDC
Output signal	4 – 20 mA, 0 - 10V, RS232, CANopen
Typical power consumption	≤ 0.7 W
Maximum measurement range	± 80°
Absolute accuracy	0.5° (typical)
Resolution	0.01°
Settling time	150 ms

# DIMENSIONS

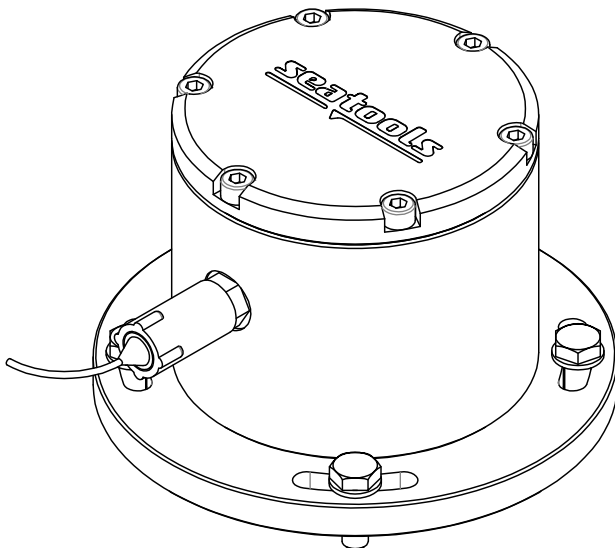
TOP VIEW



SIDE VIEW



3D VIEW



These dimensional drawings are based on a Twinclino 2000 executed with a Seacon connector. In case the sensor is executed with a different connector dimensions might deviate.

3D CAD files in STEP format are available on [www.seatools.com](http://www.seatools.com)

# SELECTION & OPTION LIST

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## For Twinclino 3000 the following configuration items must be determined:

- **Measurement accuracy.** The Twinclino 3000 sensor can be executed with two different sensor types. Sensor A is characterized by extreme accuracy of up to  $< 0.051\%$  F.S. Sensor B is a cost-competitive sensor, which achieves average measurement accuracies of up to  $< 0.28\%$  F.S.
- **Measurement range.** For sensor A, inclination angle ranges of up to  $\pm 90^\circ$  are possible. For sensor B, inclination angle ranges of up to  $\pm 80^\circ$  are possible. However, in case a smaller rotation range is required, both sensor types will be set to a narrower range in order to maximize measurement accuracy.

- **Data output format.** Twinclino 3000 sensors executed with sensor A can be supplied with either a 4 – 20 mA or a 0 – 5 V data output format. Twinclino 3000 sensors executed with sensor B can be supplied with the following data output formats: 0 – 10 V, 4 – 20 mA, RS232, and CAN open.
- **Connector.** Depending on the selected sensor and data output format, various connectors are available. By default, the Twinclino 3000 is supplied with a Subconn® Micro connector.

## The following features are optional:

### **A Cable assembly**

The sensor can be supplied with custom-made cabling in a variety of lengths, allowable loads, and connector types.

# RELATED SERVICES

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## Client advisory

During the selection process, we consult clients to ensure they opt for the right inclination sensor. In our recommendation we take into consideration measurement range, required accuracy, system setup, data communication, mounting possibilities, vibrations, and other factors that are relevant to your case.

## Custom-made versions

Next to our standardized series, Seatools offers custom-made subsea inclination sensors that are tailored to your specifications. Please contact our sales department to request a customized inclination sensor.

## Subsea monitoring & control systems

Next to the delivery of stand-alone sensors, we can deliver full-fledged subsea monitoring systems, including all related systems such as mechanics, software, electronics, and controls.

**seatools**

Edisonstraat 67  
3281 NC Numansdorp  
The Netherlands  
Tel. +31 (0) 186 68 00 00  
www.seatools.com  
info@seatools.com

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