

**ROTAX® COMPACT  
SUBSEA ROTATION  
SENSOR  
PRODUCT SHEETS**

Rotax® Compact: compact subsea rotation sensor designed for a wide variety of underwater applications



# SELECTION & OPTION LIST

For every Rotax® Compact the following configuration items must be determined:

- **Analog or digital data output.** The Rotax® Compact can be executed with either analog or digital data output formats. Analog data output consists of a 4 – 20 mA signal, while the available digital signal format is SSI.
- **Measurement range.** For Rotax® Compact sensors with an analog data output, measurement ranges of up to 340° are possible. Digital data output sensors can be supplied in either single-turn or multi-turn versions.
- **Sensor rotation.** This setting only applies for the case where an analog data output format is selected. In these cases, the sensor can be set either at positive (counting up) when turned clockwise (CW) or at positive when turned counter clockwise (CCW). The standard setting is clockwise.

The following features are optional:

## **A** Mounting brackets

As an alternative to a standard mounting made directly through the threaded mounting holes, a variety of mounting brackets is available. Contact the sales department for more information.

## **B** Flexible shaft couplings

In order to connect the sensor shaft with the shaft that is to be measured (of, for example, a winch), a flexible coupling can be supplied. Flexible shaft couplings compensate for a variety of shaft misalignments including angular and offsets.



Flexible shaft coupling

## **C** Cable assembly

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

# TYPICAL APPLICATIONS

The Rotax® Compact subsea rotation sensor is specifically designed for accurate rotation measurements in harsh subsea environments, including:

- Winch paid-out length measurements
- ROV survey frame measurements
- Submerged dredging equipment
- Subsea monitoring systems

Rotax Compact sensor applied to subsea measurement system



Rotax Compact sensor applied to ROV survey frame



# ROTAX® COMPACT SUBSEA ROTATION SENSOR SPECIFICATIONS

## GENERAL

	METRIC	IMPERIAL
Main dimensions	See detailed drawings	
Material housing / shaft	Stainless steel 316L / 431	
Weight in air	± 2.8 kg	± 6.2 lbs
Maximum static axial shaft load	0.175 kN	39.3 lbf
Maximum static radial shaft load	0.25 kN	56.2 lbf
Maximum working depth <sup>1</sup>	100 m	328 ft
Operational temperature range	-10°C - +60 °C	14 °F - +140 °F

<sup>1</sup> Working depths of up to 3000m are available upon request.

## ELECTRICAL – ANALOG DATA OUTPUT

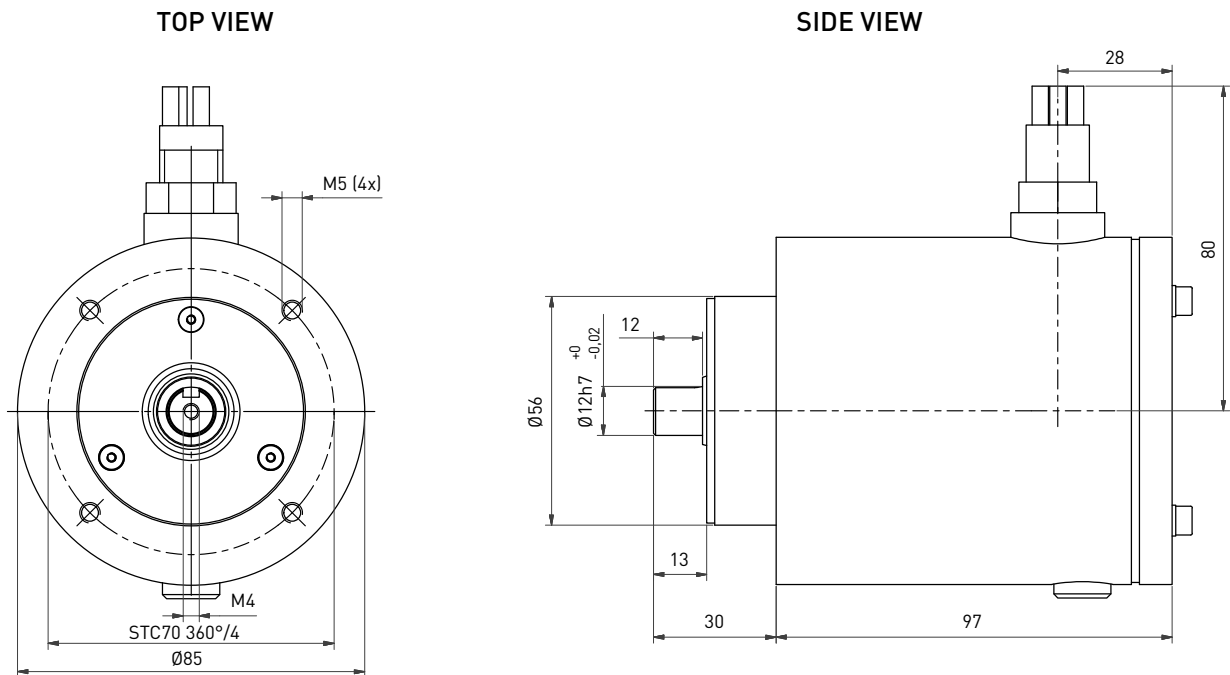
Supply voltage	18 - 33 V DC
Current consumption	± 80 mA
Output signal	4 – 20 mA (2 wires)
Measurement range	0 - 340°
Resolution / 350°	0.02 ‰
Linearity / 350°	0.2 %
Connector	Subconn® Micro 3-pole Male

## ELECTRICAL – DIGITAL DATA OUTPUT – SSI<sup>2</sup>

Supply voltage	7 - 30 V DC
Current consumption	50 mA
Output signal	SSI gray
Resolution	25 bit grey (13 bit MT, 12 bit ST)
Accuracy	±0.0878° (≤ 12 bit)
Connector	Subconn® Micro 8-pole Male

<sup>2</sup> Electrical specifications valid for Rotax® Compact sensors configured for a >100 meter depth rating

# DIMENSIONS



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

## RELATED SERVICES

### Client advisory

During the selection process, we consult clients to ensure they opt for the right Rotax® 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 rotation sensors that are tailored to your specifications. Please contact our sales department to request a customized angle 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.

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