

ROTAX® UNI 115
SUBSEA ROTATION
SENSOR
PRODUCT SHEETS

Rotax® UNI 115: subsea rotation sensor
designed to withstand harsh offshore and
dredging operating conditions



SELECTION & OPTION LIST

For every Rotax® UNI 115 the following configuration items must be determined:

- **Analog or digital data output.** The Rotax® UNI 115 can be executed with either analog or digital data output formats. For analog data output one can choose between either a 4 – 20 mA signal, or a 0 – 10 V output signal. For digital data output formats the choice is between SSI, CAN bus, Profibus, or RS-485 SLIN. Other output data formats are available upon request.
- **Measurement range.** Rotax® UNI 115 sensors are provided with an analog data output, measurement ranges of up to 360° are possible. For versions with digital data output, the sensor can be delivered in either single-turn or multi-turn versions.

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 Sprocket or chain wheel

Various types of sprocket or chain wheels are available in order to measure the rotational positions of equipment. An example of this is the slew measurement of a backhoe dredger. This option includes a shaft adapter in order to fix the chain or sprocket wheel onto the sensor shaft.



C Connector type

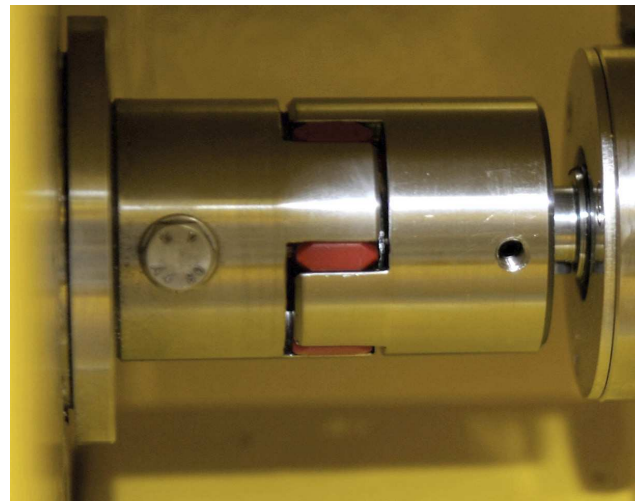
The Rotax® UNI 115 rotation sensor is supplied standard with either Subconn® Mirco-Circular or with a cable gland. Other connector types are available upon request.



Subconn® Micro 6-pole Male

D 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

E Cable assembly

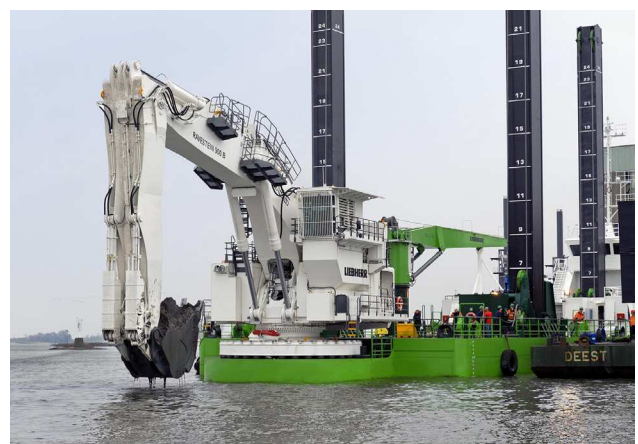
The sensor can be delivered with custom-made cabling in a variety of lengths, allowable loads, and connector types.

TYPICAL APPLICATIONS

The Rotax® UNI 115 subsea rotation sensor is specifically designed for accurate rotation measurement in harsh subsea environments, including:

- Backhoe dredger slew measurements
- Winch measurements
- Crane slew measurements

Rotax® UNI 115 sensor applied for slew measurement at backhoe dredger "Peter the Great" - DEME



ROTAX® UNI 115 SUBSEA ROTATION SENSOR SPECIFICATIONS

GENERAL

	METRIC	IMPERIAL
Main dimensions	See detailed drawings	
Material housing / shaft	Stainless steel 316L / 431	
Weight in air	± 6.5 kg	± 14.3 lbs
Maximum static axial shaft load	1.5 kN	337 lbf
Maximum static radial shaft load	2.0 kN	450 lbf
Maximum working depth	50 m	164 ft
Operational temperature range	-10°C - +70 °C	14 °F - +158 °F

ELECTRICAL – ANALOG DATA OUTPUT

Supply voltage	18 - 33 V DC
Current consumption	80 mA
Output signal	4 – 20 mA (2-wires)
Measurement range	350°
Resolution / 350°	0.02 ‰
Linearity / 350°	0.1 %
Connector	Micro Subconn® 3-pole Male

ELECTRICAL – PROFIBUS DATA OUTPUT

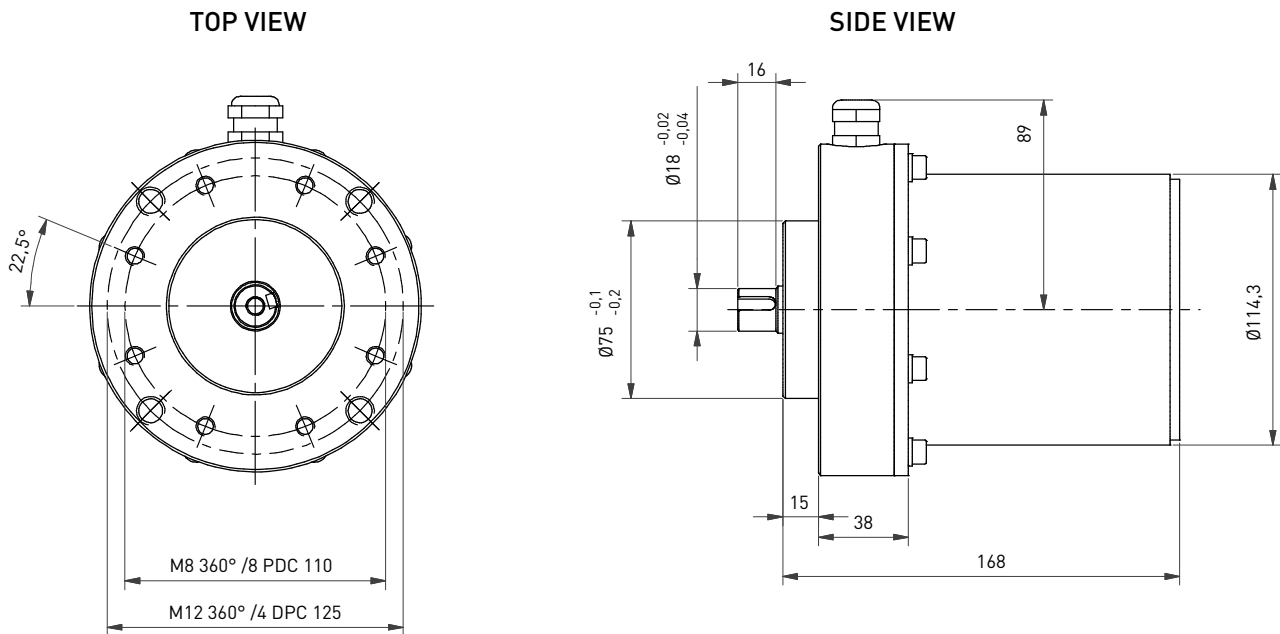
Supply voltage	10 - 30 V DC
Power consumption	Max. 2.5 W
Output signal	Profibus
Maximum resolution	Single turn: 16 bits, Multi turn: 14 bits
Accuracy	± 2 LSB at 16 Bit
Connector	Micro Subconn® 6-pole Male

ELECTRICAL – CAN BUS DATA OUTPUT

Supply voltage	10 - 30 V DC
Current consumption	Max. 100 mA
Output signal	CAN open
Maximum resolution	Single turn: 13 bits, Multi turn: 16 bits
Accuracy	± 0.025°
Connector	Micro Subconn® 6-pole Male

Electrical specifications for Rotax® UNI 115 versions with other data output formats are available upon request.

DIMENSIONS



These dimensional drawings apply for UNI 115 sensors with analog, Profibus, and CAN bus data output formats. For other output data formats, and other connector types, different dimensions may apply. Please contact our sales department for more information.

3D CAD files in STEP format are available on 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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