

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Position Transmitter**

with type designation(s)  
**RTC 300, RTC 600, RTA 602 - Rudder/Azimuth Angle Transmitters**

Issued to

**DEIF A/S**  
**Skive, Midtjylland, Denmark**

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

**Location classes:**

**Temperature D**  
**Humidity B**  
**Vibration B**  
**EMC B**  
**Enclosure B / IP67**

Issued at **Høvik** on **2019-04-25**

This Certificate is valid until **2024-05-19**.

DNV GL local station: **Aalborg**

Approval Engineer: **Nils Jarem**

for **DNV GL**

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**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-031161-1**  
Certificate No: **TAA000029F**

## Product description

Rudder/Azimuth Angle Transmitters RTC 300, RTC 600, RTA 602

**RTC 300, RTC 600:** CAN angle transmitter  
Operating Voltage: 18...31.22 VDC  
Measuring angle: +/-180°  
Degree of protection: IP67  
Software Version: SV1.4.x

**RTA 602:** Analogue 2 wires 4..20mA  
Operating Voltage: 7.5...35 VDC  
Measuring angle: +/-180°  
Degree of protection: IP67  
Software Version: SV2.5.x

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Type Approval documentation

### Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.  
Applicable tests for protected equipment according to IEC 60945, 4<sup>th</sup> edition (2002).

### Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

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### **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE