

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Position Transmitter

with type designation(s)
DWA

Issued to

NORIS Group GmbH
Nürnberg Bayern, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	C

This Certificate is valid until **2021-07-27**.

Issued at **Hamburg** on **2016-07-28**

DNV GL local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

Duy Nam Le
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.

Product description

Rotary position sensor with ohmic, voltage or current signal output

Type Code:

DWA-xxx-y-zz

xxx: Rotation angle: 50°, 70°, 90°, 180°, 240°, 320°, 360° (-U2 and -I2 only), or customised

y: 1 Diameter 80mm with terminals and 40mm connector pin

y: 2 Diameter 60mm with cable and 30mm connector pin

zz: U2: 2x 2-10V DC voltage outputs

zz: I2: 1x 4...20mA current output

zz: If not marked: Type -R with Dual potentiometer 2kOhm

Supply voltage : 9..30V DC.

Application/Limitation

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. Other chapters of the rules may also apply.

Product certificate

If specified in the applicable rule chapters the system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

Marking of product

- Manufacturer name and address
- Type designation
- Serial number
- Electrical characteristics
- Rotation angle

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, 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



Job Id: **262.1-022372-1**
Certificate No: **TAA00000JG**

- Ensuring that systems, 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, 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 at least once within the period of validity of this certificate.