

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Measurement Converter

with type designation(s)

Transducer AWAX004D06, AWAX004D07, AWAX004D09, AWAX004D10

Issued to

Bosch Rexroth AG
HORB AM NECKAR, Germany

is found to comply with

DNV GL rules for classification – Ships and offshore units

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

This Certificate is valid until **2019-11-19**.

Issued at **Høvik** on **2015-11-11**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Ståle Sneen**

Odd Magne Nesvåg
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

AWAX is a displacement transducer for linear movement.

Technical data for AWAX004D06, AWAX004D07, AWAX004D09 and AWAX004D10:

- Supply voltage: 18V...30V, ripple 10%
- Output voltage: 2.75V...9.25V
- Output current: 5.5mA...18.5mA
- Linearity Tolerance: $\pm 1\%$
- Stroke Length / nominal measurement range: $\pm 4\text{mm}$
- Ref. temperature range: $-25\text{...}+80^{\circ}\text{C}$
- Temperature drift: $0.05\%/K$

AWAX004D06, AWAX004D09:

- Tubus length: 80.2 mm

AWAX004D07, AWAX004D10

- Tubus length: 83.7 mm

Manufactured by

Magnet Schultz GmbH & Co. KG
Allgäuer Strasse 30
87700 Memmingen, Germany

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.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Dry Heat test performed at 70°C for 16 hours.

Cold test performed at -25°C for 16 hours.

Job Id: **262.1-008208-2**
Certificate No: **TAA000006G**

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE