DNV·GL

Certificate No:
TAA00001Y3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Magnetostrictive Linear Position Sensor

with type designation(s)
BTL7-A/C/E/G504-Mxxxx-Tyy-zzzz

Issued to
Balluff GmbH
Neuhausen a.d. F., Germany

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	**B**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**B**

Issued at **Hamburg** on **2018-08-08**
This Certificate is valid until **2023-08-07**.
DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**

Joannis Papanuskas
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.

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Job Id: **262.1-026247-1**
Certificate No: **TAA00001Y3**

Product description

Magnetostrictive Linear Position Sensor
Two or three separate transducer units in a common housing
Zero and end measuring point settable by customer
Power supply: 24V DC nom. (min. 10V, max. 30V DC)
Output signal: A = 0…10V or 10…0V
C = 0…20mA or 20…0mA
E = 4…20mA or 20…4mA
G = -10…10V or 10…-10V
Rod length (max.): xxxx = without support TB/TZ=300mm TT=240mm
supported TB/TZ=500mm
Signal outputs: Ty2/3 = 2 signal outputs, 3 signal outputs
Mounting thread: TB: M18x1.5, TZ: 3/4"-16UNF, TT: M30x1.5
Optional special design: SA383
Electrical connection: zzzz = S32: 8-pin, M16 plug per IEC 130-9
S135: 6-pin, M16 plug per IEC 130-9
KA_ _: Cable PUR
FA_ _: Cable TEFLON
Degree of protection: IP67
Software: V 2.x.y

Place of manufacture

Balluff GmbH
D-73765 Neuhausen, Germany

Balluff Elektronika Kft.
H-8200 Veszprém, Hungary

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.

Application/Limitation

Measures for limitation of the propagation of fire along cable bundles are required

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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