

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Temperature Sensor**

with type designation(s)

Resistance Thermometer TNK- x x x x x x x x

Issued to

**Kobold Messring GmbH
Hofheim am Taunus, Hessen, Germany**

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Temperature	B
Humidity	B
Vibration	B
EMC	N/A
Enclosure	C (IP65)

Issued at **Hamburg** on **2018-05-15**for **DNV GL**This Certificate is valid until **2023-05-14**.DNV GL local station: **Augsburg**Approval Engineer: **Didier Girardin****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.



Job Id: **262.1-028457-1**
Certificate No: **TAA00001UA**

Product description

Sensor: Pt 100, Pt 1000, Class A or B, Ni 100, NTC
Measuring range: - 80...+ 150 °C
Max. temperature: 150 °C
Max. pressure: 16 bar, 50 bar with clamp connection
Cable entry points: PG 11, 1118 x 1.5 DIN 8980-1:2008-06 +
VG 88812: 2003-09
Degree of protection: IP 65

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 RU SHIP Pt. 4 Ch. 9 Sec. 1.

Type Approval documentation

Test report : Kobold Messring No. PB0803 dd. 26.05.2008;
Mectronic No. P082775 dd. 30.04.2008;
paconsult No. 08-2016 dd. 17.06.2008.
DrawingNos.: 214.006 dd. 24.08.2006, 214.007 dd. 06.09.2006

Tests carried out

Applicable Tests according to Class Guidleine DNV GL CG-0339, November 2016

Marking of product

Maker, type, serial-number

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 this certificate.

END OF CERTIFICATE