DNV·GL

Certificate No:
TAA000001G

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Temperature Sensor

with type designation(s)
TR10-B / TC10-B (optional with thermowell TW10-P)

Issued to
WIKA Alexander Wiegand SE & Co. KG
Klingenberg, 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.

Location classes:

Temperature	**D**
Humidity	**B**
Vibration	**B**
EMC	**Not relevant**
Enclosure	**Required protection according to DNV Rules shall be provided upon installation on board. For use on open deck a connection head IP68 is required.**

This Certificate is valid until **2019-06-30**.

Issued at **Høvik** on **2015-07-07**

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.

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Job Id: **262.1-002719-3**
Certificate No: **TAA000001G**

Product description
WIKA Resistance thermometer TR10-B and WIKA Thermocouple TC10-B, optional installed in a thermowell TW10-P.

Application/Limitation
The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

The maximum TR10-B or TC10-B insertion length (L1) covered by this type approval is 435 mm.

Type Approval documentation

Tests carried out
Applicable tests according to Standard for Certification No. 2.4, April 2006.
Salt mist test according to IEC60068-2-52, Test Kb.

Marking of product
TR10-B / TC10-B

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