DNV·GL

Certificate No:
TAA00001X1

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Temperature Sensor´s and Transmitter

with type designation(s)
0901, 0911, 1000, 1014, 1091, 5000, 5130

Issued to
Rössel-Messtechnik GmbH
Dresden, 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.
DNV GL LOCATION CLASS[1]

Temperature	C
Humidity	B
Vibration	A (2g) [1)]
EMC	A
Enclosure	Required protection according to DNV GL Rules shall be provided upon installation on board

[1)] See additonnal tests GL Category H* (page 2)

Issued at **Hamburg** on **2018-09-04**
This Certificate is valid until **2023-09-03**.
DNV GL local station: **Essen**

for **DNV GL**

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.

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Job Id: **262.1-028733-1**
Certificate No: **TAA00001X1**

Product description

Type:	Range [°C]	z 0.5 [s]	z 0.9 [s]	Enclosure
0901: slot resistance Pt 100	to 150	15	50	to 150 15 50 IP 00
0911: slot resistance Pt 100	to 150	15	50	IP 00
1000: room temperature Pt 100	-50 to 120	45	120	IP 55
1014: screw in Pt 100	-50 to 550	65	185	IP 54
1091: Pt 100 with cable	-30 to 300	65	185	IP 54
5000: thermocouple type J, K, L	0 to 600	60	180	IP 54
5130: thermocouple with cable	0 to 600	60	180	IP 55

Time constant measured with air, 3 m /s

Environmental category **"H*":**
Vibration strain test: 5 Hz to 30 Hz, amplitude = 0.55 mm
30 Hz to 80 Hz, acceleration = 2 g

Application/Limitation

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, Ships Pt.4 Ch.9 Control and monitoring systems. Thermowells to be applied as required by DNV GL Rules

Suitability regarding tested vibration strain to be evaluated for the respective application.

Ingress protection is not covered by pressent certificate and shall be approved in each case according IEC Pub: no. 60529 and location class

Type Approval documentation

Test Report

121147.A.2.1	Vibration Test Report Thermocouple Typ 1014	13.11.2012
121147.A.4.1	Vibration Test Report Thermocouple Typ 5130	15.11.2012
121147.A.5.1	Vibration Test Report Thermocouple Typ 1000	16.11.2012
121147.A.6.1	Vibration Test Report Thermocouple Typ 0901	16.11.2012
121147.A.7.1	Vibration Test Report Thermocouple Typ 0911	19.11.2012
121147.A.8.1	Vibration Test Report Thermocouple Typ 1091	20.11.2012
unnumbered	Centrocal Humidity and Dry Heat Test Report	28.02.2012

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Nov 2016

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- manufacturing date

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