DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00002KV
Revision No:
2

This is to certify:

That the Temperature Transmitter

with type designation(s)
TM311

Issued to

Endress+Hauser Wetzer GmbH & Co. KG
Nesselwang, 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.

Temperature	**D**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**C**

Issued at **Hamburg** on **2020-03-09**

This Certificate is valid until **2025-02-02**.
DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**
Digitally Signed By:
Papanuskas, Joannis

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.

Product description
TM311 compact temperature transmitter
Temperature measuring range: -50°C to +200°C
Output signal: 4…20mA / IO-Link (type-approved power supply required)
Accuracy: ±1% FS (analogue)
Power supply: 24V DC
Electrical connection: M12x1 (plug male)
Tube diammeter: 3mm or 6mm (for installation in thermowell)
Process connection (male thread): ½" NPT, ¼" NPT, G ½", G ¼", M 14x1.5, M 18x1.5 or without process connection
Max. insertion length: 200mm
Degree of protection: IP66/IP67/IP69

Application/Limitation
The device must be operated with a type-approved transmitter power supply

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.

Type Approval documentation
Test report: E+H QUD_F2048_TM311_climate_DNV_GL_EN_V0100.docx, 2019-08-30
Test report: E+H QUD_F2048_TM311_high voltage_DNV_GL_EN_V0100.docx, 2019-08-30
Test report: E+H QUD_F2048_TM311_vibration_DNV_GL_EN_V0100.docx, 2019-08-30
Test reports: E+H 970007199, E+H 970007198, E+H 970007200, 2019-03-25
Test report: BV CPSG 19TUR043_EN61326-1_0, 2019-07-30
Document: QUD_F2048_Performance test EUT_EN_V0100.doc, 2019-05-14
E+H Certificate-No. P703EF044E3_2020, 2020-02-27
E+H Certificate-No. P703F1044E3_2020, 2020-02-27
Operating Instructions: BA01952T/09/EN/01.19
Technical Information: TI01439T/09/EN01.19
Drawings: Circuit Diagrams, PCB Assembly Plans, Assembly Drawing
Type approval assessment report issued at Augsburg on 2019-08-05

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

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