

TYPE APPROVAL CERTIFICATE

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

with type designation(s)

iTEMP TMT180, iTEMP TMT181, iTEMP TMT182, iTEMP TMT187, iTEMP TMT188

Issued to

**Endress+Hauser Wetzler 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.****Location classes:****Temperature B****Humidity B****Vibration A****EMC B****Enclosure Required protection according to the Rules shall be provided upon installation on board.**Issued at **Hamburg** on **2019-01-21**for **DNV GL**This Certificate is valid until **2024-01-20**.DNV GL local station: **Augsburg**Approval Engineer: **Heinz Scheffler****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

Temperature head transmitter

iTEMP TMT180:

- Input: Pt100
- Output: 4...20mA
- Auxiliary power supply: 10...35 V DC
- Communication: PCP (pc-programmable)

iTEMP TMT181:

- Input: 1 x RTD, TC, Ohm, mV
- Output: 4...20mA
- Auxiliary power supply: 8...35 V DC (8...30 V DC Ex-version)
- Communication: PCP (pc-programmable)

iTEMP TMT182:

- Input: 1 x RTD, TC, Ohm, mV
- Output: 4...20mA
- Auxiliary power supply: 11,5...35 V DC (11,5...30 V DC Ex-version)
- Communication: HART-protocol

iTEMP TMT187:

- Input: RTD (Pt100)
- Output: 4...20mA
- Auxiliary power supply: 8...35 V DC (8...30 V DC Ex-version)
- Installation: Terminal head form B

iTEMP TC TMT188:

- Input: TC
- Output: 4...20mA
- Auxiliary power supply: 8...35 V DC (8...30 V DC Ex-version)
- Installation: Terminal head form B

Application/Limitation

For installation in sensor head Form B according to DIN 43729

Ex-proof-protection (Ex-version) according to EC-Type Examination Certificate no. ZELM 99ATEX0019 X and PTB 01ATEX2013

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 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.

Job Id: **262.1-030619-1**
Certificate No: **TAA000026V**

Type Approval documentation

Test Reports: 28/02-D, TMT181+182-ECB/ECH/ECS/ESD-01, W08742 TMT180+181+182, FES_E_08_052/09_009_GL, ZAMM 473+475, Senton 50515- 40277, QUD_F 03-9-608-50_Change W09431_EN_V0100 (17.07.09), QUD_TMT181_Change W09733_EN_V0100 (20.07.09), QUD_W12229_EN_V0100 (01.02.12)

Documents: Software documentation MP007 (7. Februar 2019)

Revision record: QUD_W13701_GL_Renewal_V0100 (13.09.13);

Technical information: TI 00088R/09/en, TI 00070R/09/en, TI 076R/09/en, TI 077R/24/ae, TI078R/09/en

Tests carried out

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

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- 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 the certificate.

END OF CERTIFICATE