DNV·GL

Certificate No:
TAA00001NS

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Transmitter

with type designation(s)
8842, 8843, 8852, 8853, 8838, 8858

Issued to
Trafag AG
Bubikon ZH, Switzerland

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	**A**
Enclosure	**Required protection according to DNV GL Rules shall be provided upon installation**

Issued at **Hamburg** on **2018-02-22**

This Certificate is valid until **2022-03-29**.
DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

Digitally Signed By: Rinkel, Marco
for **DNV GL**
Location: Hamburg - On behalf of

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: **262.1-024467-3**
Certificate No: **TAA00001NS**

Product description

Types 8842/8843/8852/8853…

Relative (gauge) pressure measurement	
Absolute (vacuum) pressure measurement	
Sealed gauge pressure measurement	
Measuring range	0...0.05 bar up to 0...1000 bar
Power supply	24 V DC nominal (non-ATEX: 9...33 VDC, ATEX: 10…30 VDC)
Output signal	4...20 mA, 2-wire configuration (non-ATEX and ATEX version)
Accuracy	According to data sheet (typically better than ±0.5%FS)
Thermal error	According to data sheet
Electrical connection (Degree of protection)	DIN 43650 (IP65), Binder 723 (IP67), MIL C26482 (IP40), Lumberg RSF 4/5 (IP67)
Process connection	G ½ M, G ¼ M, G ½ M frontal and flush version and others according to data sheet
Material	1.4435, Titanium or Hastelloy C-276 (wetted parts); Viton, EPDM or Kalrez (seal)
Degree of protection	Depending on electrical connection
Explosion-proof	According to certificate SEV 11 ATEX 0145 X

Types 8838/8858… (submersible)

Relative (gauge) pressure measurement	
Absolute (vacuum) pressure measurement	
Sealed gauge pressure measurement	
Measuring range	0...0.05 bar up to 0...25 bar (0,5mH2O up to 250 mH2O)
Power supply	24 V DC nominal (non-ATEX: 9...33 VDC, ATEX: 10…30 VDC)
Output signal	4...20 mA, 2-wire configuration (non-ATEX and ATEX version)
Accuracy	According to data sheet (typically better than ±0.5%FS)
Thermal error	According to data sheet
Process connection	G ½ M, G ¼ M, G ½ M frontal and flush version and others according to data sheet
Electrical connection	Fixed cable PUR, PE or FEP Sensor and amplifier in separate housings connected via cable Connectable cable version (field replaceable)
Mounting	freely suspended cable (cable installation inside tank only)
Material	1.4435 or Titanium (wetted parts and housing); Viton, EPDM or Karlez (seal)
Degree of protection	IP68
Explosion-proof	According to certificate SEV 11 ATEX 0145 X

Place of manufacture

STS Sensor Technik Sirnach AG
Sirnach, Switzerland

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.

Application/Limitation

8842/8843/8852/8853: screened cable has to be used
8838, 8858: cable installation inside tank only

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

Type Approval documentation

Test Report V-088, dated 13.07.2001
Test Report PX22T of EMC-TestCenter Zürich, dated 28.11.2001
Test Report: STS Sensors 'Dry Heat', dated 12.03.2014
Test Report: montena 15'863 dated 21.04.2010
Ex-Certificate: SEV 11 ATEX 0145 X
Technical Data Sheets: 2.3.2.2 (H72230e), 2.3.9.3 (H72227e)
Technical Data Sheets: 2.3.2.5 (H72238g), 2.3.9.4 (H72231d)
Circuit Diagram 4.30.0121.A; Part List: 6.31.0348.A; Construction Drawings

Tests carried out

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

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE