



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00002FN
Revision No:
1

This is to certify:

That the **Pressure Transmitter**

with type designation(s)
PTM/Ex, PTM/N/Ex

Issued to

STS Sensor Technik Sirnach AG
Sirnach, TG, Switzerland

is found to comply with

DNV 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.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
PTM/Ex	D	B	B	B	C, D for IP68
PTM/N/Ex	D	B	B	B	D

Issued at **Hamburg** on **2022-02-14**

This Certificate is valid until **2024-04-06**.

for **DNV**

DNV local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

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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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Programmable Pressure Transmitter Type PTM/EX

Sensor:	Piezoresistive measuring element
Pressure type:	gauge, absolute or sealed gauge
Measuring range:	0 ... 0.1 bar up to 0 ... 1000 bar
Power supply:	9 ... 28 VDC
Output signal:	4...20 mA, 2-wire configuration
Process connection:	G 1/2 M, G 1/4 M, G 1/2 M frontal and flush version, 1/4 NPT male, 1/2 NPT male and others according to data sheet
Electrical connection:	DIN 43650, Binder 723, MIL C26482, M12x1 and others according to technical data sheet
Material:	Stainless steel 1.4435, titanium or hastelloy C-276 (wetted parts), Viton, EPDM or Kalrez (seal)
Intrinsically safe protection:	According to certificate specified on technical data sheet
Programming Interface:	PTM/EX (for device configuration and recalibration only)

Degree of protection depending on electrical connection: IP65 ... IP68

Programmable Submersible Transmitter, Type PTM/N/EX

Sensor:	Piezoresistive measuring element
Pressure type:	gauge, absolute or sealed gauge
Measuring range:	0 ... 0.1 bar up to 0 ... 25 bar (1 mH2O up to 250 mH2O)
Power supply:	9 ... 28 VDC
Output signal:	4 ... 20 mA, 2-wire configuration
Process connection:	G 1/2 M, G 1/4 M, G 1/2 M frontal and flush version, 1/4 NPT male, 1/2 NPT male and others according to data sheet
Electrical connection:	Fixed cable PUR, PE or FEP, connectable cable version (field replaceable)
Mounting:	Freely suspended cable (cable installation inside tank only)
Material:	Stainless steel 1.4435 or titanium (wetted parts and housing), Viton, EPDM or Kalrez (seal)
Intrinsically safe protection:	According to certificate specified on technical data sheet
Programming Interface:	PTM/N/EX Interface (for device configuration and recalibration only)

Degree of protection: IP68

Approval conditions

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 classification of ships Pt.4 Ch.9 Control and monitoring systems.

Ex-protection is referenced only and not covered by this type approval. Suitability of Ex-protection needs to be checked for the respective application.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After certification the clause for software control will be put into force.

Type Approval documentation

Test reports: STS 6.59.0828.A.TB(PB)02....TB(PB)12.doc, 'Trockene Wärme'
12.03.2012; ENL Test Laboratory TR Nr. 20081283.A02.01, Montena No. 15'542
EG Baumusterprüfbescheinigung SEV 08 ATEX 0142;
User Manual PTBM_DDB003.doc;
Data Sheets PTM/Ex (version 2019-01-09) & PTM/N/Ex (version 2019-02-07).
Operating and Safety Instruction 10.88.0092E.
TA Assessment Report DNV GL Augsburg, dated 2019-07-24.
Additional test report Eurofins E&E, no.21CH-01124.E01, dated 2021-09-30.

Tests carried out

Applicable tests according to DNV CG-0339, August 2021.

Marking of product

Label: Manufacturer, type designation, pressure range, Ex-rating, 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