

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Transmitter

with type designation(s)
Pressure Transmitters 18.457G, 17.457G, 26.457G, 30.457G

Issued to
BD SENSORS GmbH
THIERSTEIN, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Location classes:

Temperature	D
Humidity	B
Vibration	B
EMC	A
Enclosure	B for connector version B/IP68 for cable version

This Certificate is valid until **2018-12-31**.

Issued at **Høvik** on **2015-05-04**

DNV GL local station: **Augsburg**

Approval Engineer: **Nils Jarem**

for **DNV GL**

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Odd Magne Nesvåg
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.

Certificate No: **A-14181**
File No: **892.10**
Job Id: **262.1-008913-2**

Product description

Pressure Transmitters: 17.457G, 18.457G, 26.457G, 30.457G

Type	17.457G	18.457G	26.457G	30.457G
Input	0...16 bar up to 0...600 bar	0...100 mbar up to 0...6 bar	0...1 bar up to 0...400 bar	0...1,6 bar up to 0...250 bar
Output	4...20 mA	4...20 mA	4...20 mA	4...20 mA
Nominal Voltage	24 VDC			
Standard Supply	8...32 VDC			

Application/Limitation

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 inclusion in an instrument list, by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Power Supply Variation test carried out for 8 and 39,2 VDC for 17.457G.

Pressure transmitters cable outlet with cable and with/without air tube (IP68) tested at 4 bar for 24 hours.

Vibration Endurance test performed at 30 Hz frequency and 20 g acceleration amplitude for 90 min. in longitudinal and transversal axis according to DIN EN 60068-2-6.

Shock test (half-sine) performed for Acceleration amplitudes: 100g (2 ms), 40g (6 ms) and 500g (1 ms) according to DIN EN 60068-2-27.

Marking of product

Manufacturer: BD SENSORS GmbH

Model name: As listed under Product description

Serial number: Unique for each delivered item

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



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Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE