



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. A-9447**

This Certificate consists of 3 pages

*This is to certify that the*  
**Level Transmitters**

*with type designations*  
**Level Transmitter LMK 457,  
Pressure Transmitters DMP/DMK 457**

*Manufactured by*  
**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	B
Enclosure	D

*Place and date*  
Høvik, 2005-02-07


for DET NORSKE VERITAS AS

  
Knut-Helge Knutsen  
Head of Section



*Local Office*  
DNV Essen

*This Certificate is valid until*  
2009-06-30

  
Birger W. Bulukin  
Surveyor

**Notice:** 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: A-9447

File No.: 892.30

## Product description

Electronic Level Transmitter LMK, Pressure Transmitters DMP/DMK 457.

## 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 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.

## Application/Limitation

For Ex installation: Approval to be carried out in each case according to the Rules, and with regard to limitations found in relevant Ex and ATEX certificates.

The following paragraph is for information only, as this TA certificate is not an Ex or ATEX certificate:

Types DX13-DMP 457 and DX13-LMK 457 have been intrinsically safe certified to II 1 G EEx ia IIC T4 resp. II 1 D T 85°C according to certificate TÜV 03 ATEX 2006 X dated 2003-03-05, including 1. and 2. supplement dated 2003-08-12 respectively 2004-06-24.

## Type Approval documentation

Data sheets:

- LMK 457 Hydrostatic level probes for navigation- and offshore applications.
- DMP 457 and DMK 457 Pressure transmitters for shipbuilding and offshore.
- Technical data LMK 457 / DP 457 / DMK 457.

Assembly and Connection Manual dated 21062004

Drawings:

- EL.460.002, EL.460.012, EL.520.002, ST.360.002, ST.450.002, ST.470.002
- 56.603.500, 56.603.520, 56.603.511, 56.603.585, 59.600.000, 59.605.000, 60.600.000, 60.600.002, 60.600.004, 60.600.020, 60.600.202, 60.619.000, 60.615.000, 76.603.000

Test reports:

- EMV 03/ 3210-3, 04/ 3210-4
- Paconsult 269-03



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### Tests carried out

Applicable tests acc. to C.N. 2.4.

### Certificate retention survey

The scope of the retention/renewal survey 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 survey 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.

Survey to be performed at renewal of this certificate.

END OF CERTIFICATE