



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000RM
Revision No:
1

This is to certify:

That the Level Transmitter

with type designation(s)
LMK 487, DX14B-LMK 487 (Ex-Version)

Issued to

BD SENSORS GmbH
Thierstein, Bayern, Germany

is found to comply with
DNV rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	D

Issued at **Hamburg** on **2022-01-06**

for **DNV**

This Certificate is valid until **2026-12-15**.

DNV local station: **Augsburg**

Approval Engineer: **Holger Jansen**

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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.



Product description

Hydrostatic probe with ceramic sensor.

Input pressure range (nominal)	0,1 ... 10bar
Power Supply	24V DC (tested 12 ... 36V DC)
Output signal	4 ... 20mA, 2-wire
Electrical connection	Shielded cable with integrated air tube for atmospheric reference
Material housing	Standard: Stainless steel 1.4404 (316L) Option: Titanium (resistant against sea water)
Cable sheath material	TPE-U
Design	Probe or Screw-in version: G3/4" flush tested (mechanical connections for screw-in probes from G1" up to G2" possible on request)
Explosion protection	According certificate IExU15ATEX1066 X

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 the manufacturer of the application system in each case. Reference is made to DNV RU SHIP Pt.4 Ch.9 Sec. 1.

Type Approval documentation

Test report BFSV no. 1874/16 (2016-07-01)
 Test report BFSV no. 2012/16 (2016-08-19)
 Test report MeßTechnik Nord no. 07641.045.16 V1.0 (2016-05-04); no. 073011.173.21 V1.0 (2021-09-09)
 Test report SLG no. 6073-15-GG-15-PB001 (2015-09-22)
 Test report BD Sensors Versorgungsspannungseinfluss LMK487 (2016-11-08)
 Data sheet LMK 487 (LMK487_E_011216)
 Ordering code LMK 487 (2016-04-16)
 EC-Type Examination Certificate IExU no. IExU15ATEX1066 X
 Drawing no. 36.610.000 (version 07 / 2016-03-30)
 Drawing no. 06.615.700 (version 08 / 2014-05-23)
 Drawing no. 36.640.K00 (version 05 / 2016-03-31)
 Drawing no. 06.615.500 (version 01 / 2016-08-25)
 Drawing no. 06.615.520 (version 01 / 2016-08-25)
 Drawing no. EV.580.002 (v1.0 / 2013-03-26)
 Drawing no. EV.580.004 (v1.0 / 2013-03-26)
 Bill of materials ELV98 (v1.0 / 2015-09-02)
 Drawing no. EI.680.002 (2014-08-04)
 Bill of materials ELI86 (2014-10-29)
 Cable according drawing no. 36.400.152/04 (2016-11-21), material no. 1004479
 Technical report Flame test according IEC 60332-1-2 (2012-09-12)
 Test report CURRENTA no. 10/0806 according EN 50267-2-1:1999 (2010-06-10)
 Type Approval Assessment Report (2021-09-27)

Tests carried out

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

Place of manufacture

BD SENSORS GmbH
 BD-Sensors-Straße 1
 95199 Thierstein
 Germany

Marking of product

The products to be marked with:

- device 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