



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001GR
Revision No:
1

This is to certify:

That the Pressure Transmitter

with type designation(s)

DMP/DMK 457, DX19-DMK 457, DX19-DMP 457, DMK 457-KRO, DX19-DMK 457-KRO, DMK 456, DX14A-DMK 456, DMK 458, DX14A-DMK458

Issued to

BD SENSORS GmbH
Thierstein, Bayern, Germany

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.

Location classes:

| | |
|--------------------|----------|
| Temperature | D |
| Humidity | B |
| Vibration | B |
| EMC | B |
| Enclosure | D |

Issued at **Hamburg** on **2022-06-07**

for **DNV**

This Certificate is valid until **2022-12-11**.

DNV local station: **Augsburg**

Approval Engineer: **Didier Girardin**

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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

Pressure Transmitters: DMP 457, DMK 456, DMK 457, DMK 457-KRO, DMK 458
 Ex versions : DX19-DMP 457, DX14A-DMK 456, DX19-DMK 457,
 DX19-DMK 457-KRO, DX14A-DMK 458

Place of manufacture

BD SENSORS s.r.o.
 Hradistska 817
 CZ-68708 Buchlovice, Czech Republic

BD SENSORS GmbH
 BD-Sensors-Str.1
 95199 Thierstein, Germany

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

Ex installations to be approved in each case according to the Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

| Information on Ex-Certification received from manufacturer – Not verified by DNV GL | | |
|---|---|--------------------------------------|
| Equipment | Certified | Certificate No. |
| DX14A-DMK 458 | ⊕ II 1G Ex ia IIC T4 T from -20 to +60°C | IBExU 07 ATEX1180X dated 2017-03-15 |
| Sensor Module DSK 701C | ⊕ II 1G Ex ia IIC | IBExU 08 ATEX 1062U dated 2021-01-15 |
| DX19-DMK 457-KRO | ⊕ II 1G Ex ia IIB T4 | IBExU 10 ATEX 1068X dated 2020-06-24 |
| DX19-DMK 457 | ⊕ II 1G Ex ia IIB T4 Ga ⊕ II 1D Ex iaD 20 T85 °C | IBExU 10 ATEX 1068X dated 2020-06-24 |
| DX19-DMP 457 | ⊕ II 1G Ex ia IIB T4 Ga ⊕ II 1D Ex iaD 20 T85 °C | IBExU 10 ATEX 1068X dated 2020-06-24 |
| DX14A-DMK 456 | ⊕ II 1G Ex ia IIC T6 | IBExU 07 ATEX 1180X dated 2017-03-15 |

Type Approval documentation

See Annex

Tests carried out

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

Marking of product

Manufacturer: BD Sensors GmbH
 Model name: As listed under Product description
 Serial number: Unique identification

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

ANNEX

Hidden

Data sheets:

DMP 457 and DMK 457 Pressure transmitters for Shipbuilding and Offshore

DMP 457 and DX 19-DMP 457 Pressure transmitters for Shipbuilding and Offshore, doc. no.:

DMP 457_E_010111

DMK 456 and DX14A-DMK 456 Pressure transmitters with Stainless Steel Field Housing, doc. no.: DMK456_E_010711

DMK 457-KRO Pressure Transmitter for Shipbuilding and Offshore, dated 2010-08-26

DMK 457 and DX19-DMK 457 Pressure Transmitter for Shipbuilding and Offshore, doc. no.: DMK457_E_010111

DMK 458 Pressure Transmitter for Marine and Offshore

Technical data DMP 457 / DMK 457

Operating Manual for DMP 457

DSK511K specification P-SOURCE, dated 2010-08-30

DSK 511Z datasheet No. DSK511Z_11/2008

Assembly and Connection Manual dated 21.06.2004

Description for DNV prototype tests of devices DMK 458 and LMK 458 as well as the associated device versions for explosion protected areas DX14A-DMK 458 and DX14A-LMK 458, ver. 1, dated 14.06.2009

Description for the DNV Prototype Testing of DMK 457 KRO and DX19-DMK 457 KRO dated 2010-08-28.

Drawings:

EI.090.002, EI.060.002, EL.460.002, EL.460.012, EL.520.002, EL.631.068

ST.360.002, ST.450.002, ST.470.002, ST.490.002, ST.490.004, ST.670.002, ST.680.002, ST.680.004, ST.680.005, ST.740.002,

56.603.500, 56.603.520, 56.603.511, 56.603.585, 59.450.030, 59.600.000, 59.605.000, 59.670.000, 59.680.030,

60.600.000, 60.600.002, 60.600.004, 60.600.020, 60.600.202, 60.619.000, 60.615.000, 76.603.000, 76.608.020

EV.180.002, EV.180.004 (ELV58), EV.280.002, EV.280.004 (ELV68)

DMK 457: 59.625.000, 59.635.000, 59.692.000, 59.695.000, 59.695.010, 59.627.000, 59.674.000

DMP 457: 60.615.010, 60.622.F00, 60.625.000, 60.635.000, 60.645.000, 60.695.000, 60.695.010, 60.623.001,

60.623.F00, 60.637.000, 60.617.000

LMK 458H: 76.657.M00, 76.657.001, 76.657.000, 76.656.M00, 76.656.085, 76.656.001, 76.656.000

Test reports:

EMV 03/ 3210-3 for DMK-457, 04/ 3210-4

EMV 09/8152-1-1; DX14A-DMK458

EMV 09/8152-2-1; DX14A-LMK458

TUV NORD EMC Test Report for DX19 DMK 457-KRO No. 10 / 1068-3 dated 2010-08-26

Paconsult 269-03

Car Synergies, Report No. P05-0030

Test Report No. 07/7047-3 for DX14-LMK 457 dated March 26th, 2007

Test Report No. 07/7047-4 for DX15-LMK 457H dated April 26th, 2007

Test Report No. 07-1481 dated March 21st, 2007

Test Report No. 07-1590 for LMK457/DMK457 dated October 26th, 2007

Test Report No. 6196/07 for LMK457-GL-HT dated July 20th, 2007

Test Report No. 893.2ISO182/09 for DMP457 dated July 14th, 2009

EMC Test Report No.: 10/1068-1 for DX15A-LMK 458H dated 2010-06-24

EMC Test Report No.: 10/1068-4 for DX19-DMP 457 dated 2010-12-15

Type approval renewal assessment report issued at Augsburg on 2017-09-28.

Renewal 05.2022 compliant to IACS E10 rev.07/08 by

Test Report No.: 073011.173.21 V1.0 dated 2021.09.10