DNV·GL

Certificate No:
TAA00002MV

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Sensor

with type designation(s)
CB102. / CB202. / CE101. / CE201. /CB601. / CB602. / CE611. / CE612. ; GA 250.

Issued to
Labom Mess- und Regeltechnik GmbH
Hude, Niedersachsen, Germany

is found to comply with
DNV GL 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 GL.

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	***)**

Required protection according to the Rules shall be provided upon installation on board.

Issued at **Hamburg** on **2020-05-15**
This Certificate is valid until **2025-05-14**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Marco Rinkel**

for **DNV GL**

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.

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Product description

CB102. / CB202. / CE101. / CE201.

Measuring Ranges: 0…160 mbar up to 0…400 bar relative
0…0.4 bar up to 0 … 25 bar absolut
-160…0 mbar up to -1…15 bar relative
Piezoresistive sensor element
Series CB1(2)02.: Internal diaphragm
Series CE1(2)02.: Flush mounted diaphragm
Type of Protection: IP 65; IP 67
Output Signal: 4…20 mA, 0…20 mA or 0…10 V optional

EG Type Approval: TÜV 02 ATEX 1971 X dated 27.06.2011
Explosion Protection: II 1/2 G Ex ia IIC T4/T5/T6 Ga/Gb

CB601. / CB602. / CE611. / CE612.

Measuring Ranges: 0...100 mbar up to 0...400 bar relative
100...0 bar up to - 1...15 bar relative
0...1 bar up to 0...25 bar absolut
1...2,5 bar up to 1...17 bar absolut

Linearity error including hysteresis <+ 0.2 % f.s.
Piezoresistive measuring system
Series CB60.: Internal diaphragm
Series CE61.: Flush mounted diaphragm
Type of Protection: IP 65; IP 67 optional
Output Signal: 4...20 mA, 0...20 mA optional
Process Temperature 80°C or 140 °C

EG Type Approval: TÜV 00 ATEX 1557 X dated 04.04.2000
Explosion Protection: II 2 G Ex ib IIC T6

GA 250.
Resistance Thermometer for additional thermowell
Pt 100 connection in 3- or 4-wire circuitry
Measuring insert 1 x Pt 100 or 2 x Pt 100
Measuring insert interchangeable

EG Type Approval: BVS 04 ATEX E 144 X dated 18.06.2004
Explosion Protection: II 2 G Ex ia IIC T4/T6

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Excertificate issued by a notified/recognized Certification Body.

Type Approval documentation

See APPENDIX

Tests carried out
Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2016.

Marking of product
The products to be marked with:
- manufacturer name
- type designation
- 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 covered by assessments in connection with TAA0000245.

END OF CERTIFICATE

APPENDIX
Type Approval documentation
(hidden)