



Marine & Offshore

Certificate number: 47754/A1 BV

File number: AP4775

Product code: 3891H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ENDRESS + HAUSER SE + Co. KG

Maulburg - GERMANY

for the type of product

PRESSURE TRANSMITTERS / TRANSDUCERS

Cerabar PMC21 and PMP21

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 33

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 13 Feb 2025

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 11 Oct 2021,

Dirk Hoefner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Cerabar PMC21-... and **PMP21-...** are pressure transmitters for gauge pressure and absolute pressure measurement.

Main characteristics:

Sensor: PMC21: Ceramic diaphragm
PMP21: Metal diaphragm
Measuring ranges: PMC21: From -100 to 100 mbar to -1 to 40 bar
PMP21: From -400 to 400 mbar to -1 to 400 bar
Power supply: 24 V DC
Output: 4 to 20mA (2-wire)
Process connection: Thread
Electric connection: Valve plug, M12 plug, cable
Housing: Stainless steel
Degree of protection: IP65, IP65/67, IP66/68 (IP68 1.83 mH₂O for 24h)
Software version: 01.01.xx

Variants:

Type: PMC21-**aa b c dd e fff g hh ii jj kk**

aa = Approval: Ex-approval, as relevant

b = Output: 1 (4-20mA)

c = Electrical connection: A, B, M, U, V

dd = Sensor range: 1C, 1E, 1F, 1H, 1K, 1M, 1N, 1P, 1Q, 1R, 1S, 2C, 2E, 2F, 2H, 2K, 2M, 2P, 2S

e = Calibration, Unit: A, B, C, F, J

fff = Process connection: VUJ, VWJ, VXJ, WAJ, WBJ, WTJ, WWJ, X2J, X3J, X4J, ZJJ

g = Seal: A, J

hh = Calibration: F3

ii = Service: HA, HB, IA, I7

jj = Test, Certificate: JA

kk = Additional approval: LH

Type: PMP21-**aa b c dd e fff gg hh ii jj**

aa = Approval: Ex-approval, as relevant

b = Output: 1 (4-20mA)

c = Electrical connection: A, B, M, U, V

dd = Sensor range: 1F, 1H, 1K, 1M, 1N, 1P, 1Q, 1R, 1S, 1U, 1W, 2F, 2H, 2K, 2M, 2P, 2S, 2U, 2W

e = Calibration, Unit: A, B, C, F, J

fff = Process connection: VUJ, VWJ, VXJ, WAJ, WBJ, WJJ, WTJ, WUJ, WWJ, X2J, X3J, X4J, ZJJ

gg = Calibration: F3

hh = Service: HA, IA, I7

ii = Test, Certificate: JA, KH

jj = Additional approval: LH

2. DOCUMENTS AND DRAWINGS :

- TI01133P/00/EN/05.17 71353705; XA01271P-A/00/A3/03.17 71363134

- 210108095 rev. B dated 20.07.2015; 210108140 dated 05.08.2013; 960016598, 960016599 dated 17.02.2014

- SEV 14 ATEX 0134 dated 2014-09-16; CSA70013213 dated March 27, 2015

For A1 version:

- TI01133P/00/EN/07.21 dated 2021-03-31

3. TEST REPORTS :

- paconsult: No. 14-6356 dated 2015-02-26; No. 14-5891a dated 2015-01-07

- MeßTechnikNord: 071513.001.17 V1.0 dated 02.01.2017

- treo: 002-18 dated 4-Apr-18; 023-18 dated 4-Apr-18

- Endress + Hauser: 970005754 dated: 19.05.2016; 970005756 dated: 13.05.2016; 970005758 dated: 13.05.2016

970005760 dated: 13.05.2016; 970005762 dated: 03.06.2016

For A1 version:

Endress+Hauser SE+Co. KG: - 970008496_AK dated 2021-09-13; 970008497_AK dated 2021-09-13

4. APPLICATION / LIMITATION :

4.1 - Bureau Veritas Rules for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Bureau Veritas Environmental Category, **EC Code: 33**

4.4 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.5 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

4.6 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

4.7 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev.7.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above mentioned sensors are to be supplied by **Endress + Hauser SE+Co. KG** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Endress + Hauser SE+Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

Endress + Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg
GERMANY

6. MARKING OF PRODUCT :

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- Ex marking, as relevant

7. OTHERS :

7.1 - It is the responsibility of **Endress + Hauser SE+Co. KG** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 47754/A0 BV issued on 13 Feb 2020 by the Society.

*** END OF CERTIFICATE ***