



Type Approval Certificate

[Pressure Transmitter]

Initial Approval 12 December 2019
Manufacturer Endress+Hauser SE+Co. KG
Hauptstr. 1, D-79689, Maulburg, Germany
Product Description Type : Cerabar PMC21 / PMP21

“ See Appendix 1 ”



Approval Condition “ See Appendix 1 ”

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification of Steel Ships.

This Certificate is valid until 11 December 2024

Reissued at Busan, Korea on 30 May 2022



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME22014784809) and certificate No.(HMB18553-AE010).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 30 May 2022

A. Product Description

1. Product Specification

- 1) Supply voltage : 24V DC
- 2) Output : 4 – 20 mA
- 3) Measuring range
 - PMC21 : from -100 to 100 mbar up to -1 to 40 bar
 - PMP21 : from -400 to 400 mbar up to -1 to 400 bar
- 4) Material
 - PMC21 : Housing 316L (1.4404), Process connections 316L (1.4404), Process isolating diaphragm Al203
 - PMP21 : Housing 316L (1.4404), Process connections 316L (1.4404), Diaphragm 316L (1.4435)
- 5) Degree of protection : IP66/68
- 6) Model designation for PMC21
 - Order code : PMC21 010, 020, 040, 070, 090, 110, 190, 550, 570, 580, 590, 620, 895
 - 010 - Approvals : AA, BA, BC, CA, CB, FA, GA, GR, IA, NA
 - 020 - Output signal : 1
 - 040 - Electrical connection : A, B, C, M, U, V
 - 070 - Measuring range : 1C, 1E, 1F, 1H, 1K, 1M, 1N, 1P, 1Q, 1R, 1S, 2C, 2E, 2F, 2H, 2K, 2M, 2P, 2S
 - 090 - Calibration / Unit : A, B, C, F, J
 - 110 - Process connection : VUJ, VWJ, VXJ, WAJ, WBJ, WTJ, WWJ, X2J, X3J, X4J, ZJJ
 - 190 - Seal : A, J
 - 550 - Calibration : F3
 - 570 - Service : HA, HB, IA, I7
 - 580 - Test, Certificate : JA
 - 590 - Additional approval : LU
 - 620 - Accessories : RM, RU, RZ, R1
 - 895 - Marking : Z1
- 7) Model designation for PMP21
 - Order code : PMC21 010, 020, 040, 070, 090, 110, 190, 550, 570, 580, 590, 620, 895
 - 010 - Approvals : AA, BA, BC, CA, CB, FA, GA, GR, IA, NA, TA
 - 020 - Output signal : 1
 - 040 - Electrical connection : A, B, C, M, U, V
 - 070 - Measuring range : 1F, 1H, 1K, 1M, 1N, 1P, 1Q, 1R, 1S, 1U, 1W, 2F, 2H, 2K, 2M, 2P, 2S, 2U, 2W
 - 090 - Calibration / Unit : A, B, C, F, J
 - 110 - Process connection : VUJ, VWJ, VXJ, WAJ, WBJ, WJJ, WTJ, WUJ, WWJ, X2J, X3J, X4J, ZJJ
 - 550 - Calibration : F3
 - 570 - Service : HA, HB, IA, I7
 - 580 - Test, Certificate : JA
 - 590 - Additional approval : LE
 - 620 - Accessories : RM, RU, RZ, R1
 - 895 - Marking : Z1

2. Approved Drawings and Documents

- 1) Technical information No. TI01133P/00/EN/07.21
- 2) Drawing No. 210108095 Ver. B

3. Test Reports, etc.

- 1) Test Report
 - paconsult No. 14-6356 (2015.02.26) , 14-5891a (2015.01.07)
 - TREO No. 002-18 (2018.04.04), 023-18 (2018.04.04)
 - MTN No. 07461.022.15 V1.0 (2015.03.06), 071513.001.17 V1.0 (2017.01.02)
 - Kabel Sterner No. ULUG000886 (2017.08.04)

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- E+H No. 970004180 (2014.02.14), 970004181 (2014.02.13), 970004182 (2014.02.14),
970004183 (2014.02.13), 970004184 (2014.02.14), 970006606 (2018.03.28),
970006607 (2018.03.28), 970008497_AK (2021.09.13), 970008497_AK (2021.09.13)
- 2) Circuit diagram No. 960016585 -B
- 3) Operating instructions No. BA01271P/00/EN/07.21
- 4) Safety Instructions No. XA01271P-A/00/A3/03.17
- 5) Cable datasheet : KS-LiY11 3xAWG20/19+PA 1.5/2.5mm
- 6) Ex-proof Cert. No. SEV 14 ATEX 0134 Issue No. 01 (2017-03-30)

B. Approval Condition

1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) The manufacturer should inform this Society of all kinds of revisions of the equipment. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 3) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Condition for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

4. Others

- 1) Test condition (IACS UR E10 Rev.7)

Test	Condition	Remark
EMC	All locations excluding the bridge and deck zone	-
Temperature	-25 ~ +70°C	-
Vibration	Acceleration $\pm 4.0g$	-
Degree of protection	IP66/68	-

< End of Certificate >