

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Transmitter

with type designation(s)
Cerabar PMP21

Issued to

Endress + Hauser GmbH+Co. KG
Maulburg Baden-Württemberg, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Location classes:

Temperature B
Humidity B
Vibration B
EMC B
Enclosure B / D*

***Cable version only**

Issued at **Hamburg** on **2017-04-20**

This Certificate is valid until **2022-04-19**.

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Dariusz Lesniewski**

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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.



Job Id: **262.1-024065-1**
Certificate No: **TAA000013A**

Product description

Pressure transducer with metal sensors for measure of gauge or absolute pressure in gases, vapors, liquids and dust.

Device main features:

Process connection: thread

Electrical connection: valve plug, M12 plug or cable

Degree of protection: IP65, IP 65/67 or IP66/68 (IP68 1.83 mH₂O for 24 h)

Measuring ranges: from -400 to 400 mbar to -1 to +400 bar

Supply voltage: 24V nominal

Output: 4-20 mA

Materials: housing 316L (1.4404), process connections 316L (1.4404), diaphragm 316L (1.4435)

Model designation (ext. order code):

PMP21 010 020 040 070 090 110 550 570 580 590 620 895

Ext. order code	Description	Options
010	Approvals	AA, BA, BB, BC, CA, CB, FA, GA, IA, NA, TA
020	Output signal	4-20mA (2-wire)
040	Electrical connection	A, B, 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, IA
580	Test, Certificate	JA, KH
590	Additional approval	LE
620	Enclosed accessories	QA, QB, QC, RM, RZ, R1
895	Marking	Z1

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- Ext. order code
- power supply ratings

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



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- 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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE