



CERTIFICATE NUMBER 18-HG1739363-PDA
EFFECTIVE DATE 07-June-2018
EXPIRATION DATE 06-June-2023
ABS TECHNICAL OFFICE
Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

ENDRESS & HAUSER SE & CO. KG

located at

Hauptstr. 1, D-79689 Maulburg, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Pressure Transducer

Model Pressure transducer Cerabar - PMC 21, PMP 21

This Product Design Assessment (PDA) Certificate remains valid until expiration date or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

Ulf Numirski
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

ENDRESS & HAUSER SE & CO. KG

HAUPTSTR. 1

D-79689 MAULBURG

Germany

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Web: www.pcm.endress.com

Tier: 2 - PDA Issued

Product: Transducer, Pressure

Model: Pressure transducer Cerabar - PMC 21, PMP 21

Intended Service:

Liquids, gases, vapours pressure control, alarm and monitoring functions for marine applications.

Description:

Housing made of material stainless steel 316L (1.4404).

Rating:

Pressure ranges: -100 mbar to +100 mbar, -1 bar to +40 bar (PMC 21); -400 mbar to +400 mbar, -1 bar to +400 bar (PMP 21)

Temperature of medium: -25 °C to 100°C (PMC 21); -40 °C to 100 °C (PMP 21)

Power supply: 10...30V DC.

Output: 4...20mA.

Degree of protection: IP 65, IP 65/67, IP 66/68.

Certified safe types: Ex ia IIC T4 Gb, Class I, Zone 1, AEx ia IIC T4 Gb, Class I Division 1, Group A,B,C and D (CSA 70013213), II 1/2G Ex ia IIC T4 Ga/Gb, II 2G Ex ia IIC T4 Gb (SEV 14 ATEX 0134)

Service Restriction:

- Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
- For Passenger Vessels, level switches are not to be installed on flammable oil tanks where they require tank wall penetration below the tank top.

Comments:

- Each particular application and installation is to be specifically approved in conjunction with the relevant systems and tank arrangements.
- ATEX certified equipment is not to be installed in hazardous areas on U.S vessels unless it can be prove to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S coast Guard. USCG notice 01-12 (February 7, 2012).
- The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. 002-18, Test Report, Treo, 04/04/2018, Revision: 1, Pages: 36

Drawing No. 023-18, Test Report, Treo, 04/04/2018, Revision: 1, Pages: 36

Drawing No. 14-6356, Test Report, Paconsult, 26/02/2015, Revision: 1, Pages: 17

Drawing No. 210108095, Dimension Drawing, Revision: 1, Pages: 1

Drawing No. 70013213, CSA Certificate, Revision: 1, Pages: 5

Drawing No. 71348286, Technical Information, Revision: 1, Pages: 48

Drawing No. 71353705, Technical Information, Revision: 1, Pages: 48

Drawing No. 970005754, 970005754_IPx7, Revision: 1, Pages: 8

Drawing No. 970005756, 970005756_IPx6, Revision: 1, Pages: 6

Drawing No. 970005758, 970005758_IPx5, Revision: 1, Pages: 6

Drawing No. 970005760, 970005760_IP6x, Revision: 1, Pages: 6

Drawing No. 970005762, 970005762_Type6P_IPx8, Revision: 1, Pages: 4

Drawing No. 970005764, 970005764_Type4, Revision: 1, Pages: 6

Drawing No. BA01271P, BA01271PEN_0517, Revision: 1, Pages: 48

Drawing No. Ordercode for PMC21, Ordercode for PMC21_rev02, Revision: 2, Pages: 2

Drawing No. SEV14ATEX0134, ATEX Certificate, Revision: 1, Pages: 2

Drawing No. TI00426F, TI00426FEN_1816, Revision: 1, Pages: 60

Drawing No. TI01133P, TI01133PEN_0216, Revision: 1, Pages: 36

Drawing No. XA01271P-A, XA01271PA3_0317, Revision: 1, Pages: 24

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Tier: 2 - PDA Issued

Drawing No. XA01321P-A, XA01321PEN_0114, Revision: 1, Pages: 1
Drawing No. XA01322P-A, XA01322PEN_0114, Revision: 1, Pages: 1
Drawing No. XA01363P-A, XA01363PEN_0115, Revision: , Pages: 8
Drawing No. XA01533P-A, XA01533PA3_0216, Revision: 1, Pages: 20
Drawing No. XA01540P-A, XA01540PEN_0116, Revision: 1, Pages: 8

Terms of Validity:

This Product Design Assessment (PDA) Certificate 18-HG1739363-PDA, dated 07/Jun/2018 remains valid until 06/Jun/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2018 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-1/3.23, 4-6-2/9.11.2, 4-6-2/9.11.3, 4-6-4/13.5.6(b), 4-6-4/15.3.4(b) 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17, 4-9-8/13

National:

NA

International:

SOLAS (2014 Consolidated Edition) II-2, Regulation4, Paragraphs 2.2.3.5.2.1, 2.3.1.1 and 2.4 - for flammable oil tanks on Passenger Vessels

Government:

NA

EUMED:

NA

OTHERS:

NA