



CERTIFICATE NUMBER	21-2091262-PDA
EFFECTIVE DATE	12-Apr-2021
EXPIRY DATE	11-Apr-2026
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 Transmitter
Model: Cerabar S - PMC 71, PMP 71, PMP 75
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 11/Apr/2026 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

Efstratios Maliatsos, 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

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Web: www.endress.com

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Product: Pressure Transmitter

Model: Cerabar S - PMC 71, PMP 71, PMP 75

Endorsements:

Intended Service:

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

Description:

Housing made of material AISI 316L/1.4435, stainless steel "T17" or of aluminum. Ceramic (PMC 71) or metallic (PMP 71/75) pressure sensor diaphragms. Threaded or flanged process connections.

Rating:

Pressure ranges:

-0.1/0...0.1 bar to -1/0...40 bar (PMC 71)

-0.1/0...0.1bar to -1/0...400 bar (PMP 71)

-0.1/0...0.4 bar to -1/0...400 bar (PMP 75)

Temperature of medium:

-20°C to 125/150°C (PMC 71)

-40°C to 125°C (PMP 71)

up to 350°C (PMP 75)

Power supply: 10.5...45V DC, 4...20mA loop powered

Output: 4...20mA HART, 2-wire

Degree of Protection: IP 65/66/67

Certified safe type:

As per FM16US0360X:

Intrinsically Safe for Class I, II, III Division 1, Groups A, B, C, D, E, F, and G hazardous (classified) locations with marking IS CLI, II, III, DIV 1, GP A, B, C, D, E, F, G;

Intrinsically Safe for Class I, Zone 0, Group IIC hazardous (classified) locations with marking CLI, Zn 0, AEx ia IIC;

Nonincendive for Class I, II, III Division 2, Groups A, B, C, D, F, and G hazardous (classified) locations with marking NI CLI, II, III, DIV 2, GP A, B, C, D, F, G;

Type 4X and Type 6P;

As per FM16US0361X:

Intrinsically Safe for Class I, Division 1, Groups A, B, C, D, hazardous (classified) locations with marking IS CLI, DIV 1, GP A, B, C, D; T6 Ta= -50°C to +40°C, T4 Ta= -50°C to +70°C (Cerabar-S PMP 71, PMP 75 only);

Explosionproof for Class I, Division 1, Groups A, B, C, and D hazardous (classified) locations with marking CLI, DIV 1, GP A, B, C, D; T6 Ta = -50°C to +75°C;

Flameproof for Class I, Zone 1, Group IIC hazardous (classified) locations with marking CLI, Zn1, GP IIC; T6 Ta = -50°C to +75°C;

Nonincendive for Class I, Division 2, Groups A, B, C, D, hazardous (classified) locations with marking NI CLI, DIV 2, GP A, B, C, D; T6 Ta = -50°C to +75°C;

As per CSA 1509834:

Class I, Groups B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P (Cerabar-S PMP 71, PMP 75 only); Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups E, F and G; Class III; Type 4X/6P (Cerabar-S PM P71, PMP 75 only);

Class I, Zone 0; Ex ia IIC; Class I, Zone 0; AEx ia IIC; Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III; Type 4X/6P;

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II 1/2 G Ex ia IIC T6 or II 1/2 D Ex ia IIIC T85°C (KEMA 03ATEX1561);
II 2 G Ex d IIC T6 for Type PMP 71 & PMP 75, II 2 G Ex d ia IIC T6 for Type PMC 71 (KEMA 04ATEX2018);
II 1/2 G Ex ia IIC T6 or II 2 G Ex d IIC T6 for Types PMP 71, PMP 75 only (KEMA 05ATEX1009);

Service Restriction:

1. 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.
2. 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).
3. The sensing devices are to be fitted with valves or arranged such that they may be isolated and removed without emptying tanks or without impairing the integrity of pressurized systems.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Each particular application and installation is to be specifically approved in conjunction with the relevant system, locations and environmental conditions.

Notes/Drawing/Documentation:

Drawing No. 0722A-05, Vibration/Environmental Tests, Paconsult, 05/05/2005
Drawing No. 070823_07-1567-BE-salt mist, test report, salt mist, Paconsult, 23/08/2007
Drawing No. CSA1509834_70137833_CoC, CSA certificate
Drawing No. E102258E2, test report, EMC, Phoenix Testlab, 08/09/2010
Drawing No. FM3017778-16US0360XSupp09, FM certificates
Drawing No. FM3017836-16US0361XSupp07, FM certificates
Drawing No. KEMA 03ATEX1561-iss5, ATEX certificate
Drawing No. KEMA 04ATEX2018 Iss 3, ATEX certificate
Drawing No. KEMA 05ATEX1009 Iss3, ATEX certificate
Drawing No. Ordercode PMC71, Ordercode information PMC71
Drawing No. Ordercode PMP71, Ordercode information PMP71
Drawing No. PTC_E_05_031_GL, test report, EMC, Endress + Hauser, 30/05/2005
Drawing No. PTC_E_05_032_GL, test report, EMC, Endress + Hauser, 30/05/2005
Drawing No. S102258E1, test report, High voltage, Phoenix Testlab, 15/09/2010
Drawing No. TI00383PEN, Technical Information PMC71, PMP 71
Drawing No. TI00451PEN, Technical Information PMP71 with MID Parts Certificate
Drawing No. paconsult-07-1567_Rev1, test report, salt mist, Paconsult, 28/09/2007
-----Revalidation 2021-----
Drawing No. 970008000_AK_01_mit US, EMC Testreport, Cerabar S PMC71, (6GHz), E&H, 09-10-2020
Drawing No. 970008001_AK_01_mit US, EMC Testreport, Deltabar S PMD75, (6GHz), E&H, 09-10-2020
Drawing No. 970008002_AK_01_mit US, EMC Testreport, Deltabar S FMD78, (6GHz), E&H, 09-10-2020
Drawing No. 970008003_AK_01_mit US, EMC Testreport, Cerabar S PMD75, (6GHz), E&H, 09-10-2020
Drawing No. 970008004_AK_01_mit US, EMC Testreport, Cerabar S PMP71, (6GHz), E&H, 09-10-2020
Drawing No. 970008005_AK_01_mit US, EMC Testreport, Cerabar S PMP75, (6GHz), E&H, 09-10-2020
Drawing No. BA00271PEN_1916, Operating Instructions Cerabar S PMC71, PMP71, PMP75
Drawing No. BA00274PEN_1816, Description of Instrument Functions Cerabar S PMC71, PMP71, PMP75; Deltabar S FMD77 / 78, PMD75
Drawing No. TI00383PEN_3420, Technical Information Cerabar S PMC71, PMP71, PMP75
Drawing No. ISO 9001, ISO 9001 certificate

Terms of Validity:

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STANDARDS

ABS Rules:

2021 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.11.2, 4-6-2/9.11.3, 4-8-3/1.7, 4-8-3/1.11.1, 4-8-3/1.17, 4-8-3/13, 4-9-9/13.1, 4-9-9/Table 1

2021 Mobile Offshore Unit Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-3-1/11, 4-3-1/15, 4-3-1/17.1, 4-3-3/9.1.1, 4-3-3/9.1.2, 4-3-3/9.3.1, 4-3-3/9.3.2

National:

NA

International:

IACS UR E10 Rev.7

Government:

NA

EUMED:

NA

OTHERS:

NA