



CERTIFICATE NUMBER	25-0442643-PDA
EFFECTIVE DATE	15-Jan-2026
EXPIRY DATE	14-Jan-2031
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

DRAEGER SAFETY AG & CO. KG AA

located at

REVALSTRASSE 1, , D-23560 LUEBECK, 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: Gas Detector
Model: Polytron 8100 EC, 8200 CAT, 8700 IR, 8720 IR, 8900
Sensor Types (sensing principle): ITR 0xxx (infrared), XTR 0xxx (catalytic), ETR 0xxx (electrochemical)
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 14/Jan/2031 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)

Tier: 2 - PDA Issued

Product: Gas Detector

Model: Polytron 8100 EC, 8200 CAT, 8700 IR, 8720 IR, 8900

Sensor Types (sensing principle): ITR 0xxx (infrared), XTR 0xxx (catalytic), ETR 0xxx (electrochemical)

Endorsements:

Intended Service:

Stationary gas detector for Marine and Offshore Applications.

Description:

Explosion-proof gas transmitters for monitoring concentrations of combustible/ toxic gases, vapors and oxygen.

- Polytron 8100 EC: detection of toxic gases or oxygen, plug and play electrochemical Dräger Sensor;
- Polytron 8200 CAT: detection of flammable gases in the lower explosion limit (LEL), catalytic bead Dräger Sensor Ex;
- Polytron 8700 IR: detection of combustible gases in the lower explosion limit (LEL), high performance infrared Dräger PIR 7000 sensor, which will detect most common hydrocarbon gases;
- Polytron 8720 IR: detection of carbon dioxide in percent volume or ppm, infrared Dräger PIR 7200 sensor.
- Polytron 8900 UGLD : explosion proof instrument for continuous ultrasonic gas leak detection.

Rating:

Power supply: 10 to 30 V DC (3-wire shielded cable)

Signal Output: 4 to 20 mA, optional 3 relay outputs (alarm, fault)

Display: 128 x 64 resolution, back-lit

3 LEDs: red (alarm triggered); yellow (fault); green (power on)

Degree of Protection: IP65/66/67

Ambient Operating Temperature: -25°C to 70°C

Housing Stainless Steel/Aluminum

P8200, P8700 tested at 4g vibration

P8900 tested at 2.3g vibration

Certified Safe Type:

Ex db IIC T6/T4 Gb resp. Ex db eb IIC T6/T4 Gb resp. Ex db ia IIC T6/T4 Gb resp. Ex db eb ia IIC T6/T4 Gb resp.
Ex db [ia] IIC T6/T4 Gb resp. Ex db ia [ia Ga] IIC T6/T4 Gb resp. Ex db eb [ia] T6/T4 Gb resp. Ex db eb ia [ia] IIC
T6/T4 Gb (IECEX PTB 11.0005X Issue No. 10)

SIL capability: SIL 2 ref (No. Z10 053474 0023 Rev. 03, TUV SUD issued 14-07-2025)

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.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Ex certification is not covered by this certificate. Installation is to be in accordance with any specific conditions for safe use as detailed in the Ex approval certificate. The device variants incorporating a FISCO fieldbus interface as well as the Gas detection transmitter Type ETR 0*** must operate in circuits that are limited to overvoltage category I/II/III in accordance with IEC 60664-1 for FISCO field device operation.
3. Where the detector is installed as a component of a detection system the complete system is to be specifically approved.

D-23560 LUEBECK

Germany

Telephone: 0049 451 882 5193

Fax: 0049 451 882 7 5193

Email: info@draeger.com

Web: www.draeger.com

Tier: 2 - PDA Issued

Notes/Drawing/Documentation:

Drawing No. 08, Product Key P8xxx, Revision: -
Drawing No. 15, Construction Polytron 8000 8100, Revision: -
Drawing No. 16, Dimension Drawing, Polytron 8200, Revision: -
Drawing No. 17, Dimension Drawing, Polytron 8310 8700 8720, Revision: -
Drawing No. 19, Assembly XTR SE20934_0, Revision: -
Drawing No. 21, Layout ETR XTR ITR SE20935_0, Revision: -
Drawing No. 22, Block Diagram, ETR XTR ITR SE20937_0, Revision: -
Drawing No. 23, Test Report, Salt Mist, 26/04/2013, Revision: -
Drawing No. 24, IP Test x6 x7, 27/08/2012, Revision: -
Drawing No. 25, IP Verification 6x, Revision: -
Drawing No. 26, Manufacturer Declaration due to IP degree, Revision: -
Drawing No. 28, Clime Test report Polytron 5200/Polytron 8310, CEcert GmbH, 21-09-2012, Revision: -
Drawing No. 29, Test Report, Vibration, AKUVIB, 14/03/2013, Revision: -

-----Revalidation 2021-----

Drawing No. 4161722 Rev 0, Test Report EMC P8200 CAT, CEcert GmbH, 12-09-2016, Revision: -
Drawing No. 4161732 Rev 0, Test Report EMC P8700 IR, 29-09-2016, Revision: -
Drawing No. 4162872 Rev 0, Test Report EMC P8100 EC, CEcert GmbH, 23-11-2016, Revision: -
Drawing No. 4183471 Rev 0, Test Report EMC P8700 IR (6 GHz), CEcert GmbH, 10-12-2018, Revision: -
Drawing No. 4183472 Rev 0, Test Report EMC P8200 CAT (6 GHz), CEcert GmbH, 10-12-2018, Revision: -
Drawing No. 4183473 Rev 0, Test Report EMC P8100 EC (6 GHz), CEcert GmbH, 10-12-2018, Revision: -
Drawing No. TREO 270-20, ENV Test Report (Polytron 7000-EC sensor), TREO, 02-11-2020, Revision: -
Drawing No. PIR 7000, ENV Test Report, PIR 7000, TREO, 27-04-2020, Revision: -
Drawing No. 9041533, Product Information P8100 EC, Revision: -
Drawing No. 9041534, Product Information P8200 CAT, Revision: -
Drawing No. 9041536, Product Information P8700 IR, Revision: -
Drawing No. 9041537, Product Information P8720 IR, Revision: -
Drawing No. PTB 11 ATEX 1005 X, Issue 2, Ex-approval, dust, Revision: -
Drawing No. SE20933-03, PCB Main Assy ITR 04/5, Revision: -
Drawing No. SE20961-04, Transmitters ETR 04/5 I.Z, Revision: -
Drawing No. SE20963-03, Transmitters ITR 04/5 I.Z, Revision: -
Drawing No. SE20965-04, Transmitters XTR 04/5 I.Z, Revision: -
Drawing No. SE20969-03, PCB Interf 4-20/Rel Assy ETR 04/5, Revision: -
Drawing No. Z10 053474 0023 Rev 01, SIL certificate, Revision: -
Drawing No. IECEX PTB 11, IECEX Certificate, Revision: 08
Drawing No. CSA 2518052 Sup , CSA Certificate, Revision: 08

----- Reval. 2026-----

Drawing No. Test Report No. 422.193.2 Rev. 0, CEcert GmbH dated 2022-11-24 (EMC, Revision: P8100 SensorAlive)
Drawing No. Test Report No. 423.134.5 Rev. 0, CEcert GmbH dated 2023-10-12 (clime, Revision: P8200)
Drawing No. Test Report No. 423.134.3 Rev. 0, CEcert GmbH dated 2023-10-10 (vibration, Revision: P8200)
Drawing No. Test Report No. 423.134.1 Rev. 0, CEcert GmbH dated 2023-09-22 (EMC, Revision: P8200)
Drawing No. Test Report No. 423.134.7 Rev. 0, CEcert GmbH dated 2023-10-13 (IP, Revision: P8200)
Drawing No. Test Report No. 423.134.6 Rev. 0, CEcert GmbH dated 2023-10-12 (clime, Revision: P8700)
Drawing No. Test Report No. 423.134.4 Rev. 0, CEcert GmbH dated 2023-10-10 (vibration, Revision: P8700)
Drawing No. Test Report No. 423.134.2 Rev. 0, CEcert GmbH dated 2023-09-22 (EMC, Revision: P8700)
Drawing No. Test Report No. 423.134.8 Rev.0, CEcert GmbH dated 2023-10-13 (IP, Revision: P8700)
Drawing No. Test Report No. 329-19, TREO dated 2020-03-25 (environmental, Revision: P8900)
Drawing No. Test Report No. 19045-1-R01, TuV NORD CERT GmbH, dated 2019-05-14 (EMC, Revision: P8900)
Drawing No. IECEX PTB 11.0005X, IECEX PTB 11.0005X Iss. 10; dated 2022-12-15, Revision: 10
Drawing No. Z100534740023, Safety Related Programmable Electronic System Certificate; dated 2025-07-14, Revision: 03

Tier: 2 - PDA Issued

Terms of Validity:

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STANDARDS

ABS Rules:

2026 Rules for Conditions of Classification: 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:
2026 Rules for Building and Classing Marine Vessels: 4-8-3/1.11.1, 4-8-3/1.17.1, 4-8-3/13, 4-9-9/Table 1

2026 Rules for Conditions of Classification: 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:
2026 Rules for Building and Classing Offshore Units: 4-3-1/11, 4-3-1/15, 4-3-1/17.1

National:

NA

International:

IACS UR E10 Rev. 9

Government:

NA

EUMED:

NA

OTHERS:

NA



Work Order - WO0442643
Product Design Assessment (PDA)
Gas Detector
Polytron 8100 EC, Polytron 8200 CAT,
Polytron 8700 IR, Polytron 8720 IR,
Polytron 8900
Sensor Types: ITR 0xxx (infrared
sensing principle) , XTR 0xxx (catalytic
sensing principle), ETR 0xxx
(electrochemical sensing principle)
PDA No. 25-0442643-PDA

Attention: DRAEGER SAFETY AG & CO. KG AA (WCN: 134635)

The documents shown in the attached list are reviewed in accordance with the applicable requirements indicated in the PDA along with the service restrictions and comments.

We recommend that you monitor the ABS Rules, Guides and other standards used in the Assessment. These Rules, Guides and standards often change on an annual basis, and you must comply with the new Rules, Guides and standards in order for the product to be used on an ABS classed vessel or facility contracted under the new Rules, Guides or specifications.

Additionally, we acknowledge the PDA request form warranting that the materials used in the product(s) are free from asbestos.

For any clarifications, contact Dimitra Mangina at DMangina@eagle.org.

Very truly yours,

Pier Carazzai
Vice President of Engineering

Electronically Signed by: Efstratios Maliatsos

Documents List

Drawing No.	Rev. No.	Title	Status
01	-	PDA Application	Filed by ABS for Reference Only
IECEX PTB 11.0005X	10	IECEX PTB 11.0005X Iss. 10; dated 2022-12-15	Filed by ABS for Reference Only
TAA000022H	01	TAA000022H_Rev. 01	Filed by ABS for Reference Only
Test Report No. 329-19	P8900)	dated 2020-03-25 (environmental	Reviewed
Test Report No. 329-19.	P8900)	dated 2020-03-25 (environmental	Reviewed
Test Report No. 422.193.2 Rev. 0	P8100 SensorAlive)	dated 2022-11-24 (EMC	Reviewed
Test Report No. 423.134.1 Rev. 0	P8200)	dated 2023-09-22 (EMC	Reviewed
Test Report No. 423.134.2 Rev. 0	P8700)	dated 2023-09-22 (EMC	Reviewed
Test Report No. 423.134.3 Rev. 0	P8200)	dated 2023-10-10 (vibration	Reviewed
Test Report No. 423.134.4 Rev. 0	P8700)	dated 2023-10-10 (vibration	Reviewed
Test Report No. 423.134.5 Rev. 0	P8200)	dated 2023-10-12 (clime	Reviewed
Test Report No. 423.134.6 Rev. 0	P8700)	dated 2023-10-12 (clime	Reviewed
Test Report No. 423.134.7 Rev. 0	P8200)	dated 2023-10-13 (IP	Reviewed
Test Report No. 423.134.8 Rev.0	P8700)	dated 2023-10-13 (IP	Reviewed
Z100534740023	03	Z100534740023 Rev 03; dated 2025-07-14	Filed by ABS for Reference Only
19045-1-R01	-	EMC Test Report P8900	Reviewed
Polytron-8Polytron-8900UGLD900-UGLD	-	Technical specifications	Approved

Electronic copies of the documents, appropriately stamped, are available in the ABS MyFreedom™ Client Portal.

Include: PDA Certificate