



# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAA000022H**  
Revision No:  
**1**

**This is to certify:**  
**that the Gas Detector**

with type designation(s)  
**Polytron 8xxx Series, ITR 0xxx, XTR 0xxx, ETR 0xxx**

issued to  
**Dräger Safety AG & Co. KGaA**  
**Lübeck, Germany**

is found to comply with  
**DNV rules for classification – Ships, offshore units, and high speed and light craft**

## Application:

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

## Location classes:

|                    |              |
|--------------------|--------------|
| <b>Temperature</b> | <b>D</b>     |
| <b>Humidity</b>    | <b>B</b>     |
| <b>Vibration</b>   | <b>B, C*</b> |
| <b>EMC</b>         | <b>B*</b>    |
| <b>Enclosure</b>   | <b>B, C*</b> |

**\*see 'Product description' on page 2 of this certificate**

Issued at **Hamburg** on **2024-03-01**

for **DNV**

This Certificate is valid until **2029-02-28**.

DNV local unit: **Hamburg**

Approval Engineer: **Dariusz Lesniewski**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2023-09

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## Product description

Gas detection transmitter for monitoring concentrations of combustible/toxic gases and vapours and oxygen (not the Polytron 8900).

Polytron 8900 UGLD is an explosion proof instrument for continuous ultrasonic gas leak detection.

Technical Data Polytron 8xx0:

Supply voltage: 3-wire shielded cable, 10 to 30 VDC

Output: 4 to 20 mA analogue current (normal condition)

3x relay outputs (Alarm, Fault, Maintenance) - optional

Display: Resolution 128x64, back-lit

3x LEDs (Alarm, Fault, Maintenance)

Degree of protection: IP 65/66/67

Software Version: 4.x.x

Ultrasonic level range (displayed): 0 % [<55dB] .... 100% [=110dB]

Transmitter types, coding of type:

(1)TR 0(2)(3)(4)

(1) Sensor

I, X or E : infrared (I), catalytic (X) or electro-chemical (E)

(2) Material of housing

4 or 5 : aluminium (4), stainless steel (5)

(3) Internal sensor (ITR 0xxx)

1 : IDS 0101 (PIR 7000, 334) P8700

2 : IDS 0102 (PIR 7000, 340) P8700

5 : IDS 0105 (PIR 7200) P8720

Internal sensor (XTR 0xxx)

0 : IDS 0002 (DrägerSensor IR) P8310

1 : XDS 020x (DrägerSensor DQ) P8200

Internal sensor (ETR 0xxx)

0 : O<sub>2</sub>, O<sub>2</sub> LS, H<sub>2</sub>S SensorAlive P8100

2 : Ultrasonic Microphone Sensor P8900

(4) Interface

0 : XP or "d", 4-20mA

1 : XP or "d", 4-20mA w/Relays

I : "e", 4-20mA

J : "e", 4-20mA w/Relays

(\* Location class 'Vibration: C'

- ETR 042\*
- ETR 052\*
- ERH 00\*\*
- ERA 00\*\*
- ESH 00\*\*

(\* Location class 'Enclosure: C'

- XTR 05\*\*
- ITR 05\*\*
- EAC 011\*
- ETR 042\*
- ETR 05\*\*
- ERH 00\*\*
- ERA 00\*\*
- only with stainless steel or nickel plated blind plugs
- ESH 00\*\*

(\* Location class 'EMC: B'

- Type approved power supply required

## Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Application/Limitation

Polytron 8900 UGLD is device without a measuring function for explosive protection.

## Type Approval documentation

### **P 8xx0**

#### Test Reports (Environmental, EMC):

Test Report No. 422.193.2 Rev. 0, dated 2022-11-24 (EMC, P8100 SensorAlive)  
Test Report No. 423.134.1 Rev. 0, dated 2023-09-22 (EMC, P8200)  
Test Report No. 423.134.2 Rev. 0, dated 2023-09-22 (EMC, P8700)  
Test Report No. 423.134.3 Rev. 0, dated 2023-10-10 (vibration, P8200)  
Test Report No. 423.134.4 Rev. 0, dated 2023-10-10 (vibration, P8700)  
Test Report No. 423.134.5 Rev. 0, dated 2023-10-12 (clime, P8200)  
Test Report No. 423.134.6 Rev. 0, dated 2023-10-12 (clime, P8700)  
Test Report No. 423.134.7 Rev. 0, dated 2023-10-13 (IP, P8200)  
Test Report No. 423.134.8 Rev. 0, dated 2023-10-13 (IP, P8700)

#### Explosion Protection:

PTB 11 ATEX 1005 X, Issue 04, dated 2022-12-14  
Test Report No. Ex 22-21212, dated 2022-12-14

#### Measuring Performance, Software:

BVS 13 ATEX G 001 X, Issue 02, dated 2023-10-23  
PFG 14 G 001 X, Supplement 8, dated 2023-10-31  
Test Report No. 41300313P N12, dated 2023-10-31  
Test Report No. 41300313P N14, dated 2023-10-17  
Test Report No. 41300313P N15, dated 2023-10-23  
Z10053474 0023 Rev. 02, dated 2020-07-30  
Test Report No. DL76801aC, dated 203-11-24

#### Other:

11258338 DNV Testplan Polytron 8xx0  
Overview Approval Documentation SE23493-11

### **P 8900**

#### Test Reports (Environmental, EMC):

Test Report No. 329-19, dated 2020-03-25 (environmental, P8900)  
Test Report No. 19045-1-R01, dated 2019-03-11 (EMC, P8900)

#### Explosion Protection:

PTB 11 ATEX 1005 X, Issue 04, dated 2022-12-14  
Test Report No. Ex 22-21212, dated 2022-12-14

#### Other:

IFU\_ 9033826 (P8900) Edition 07, dated 2023-03  
11258338 DNV Test Plan Polytron 8xx0

Type approval assessment report issued at Hamburg on 2023-09-07

## Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

## Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- 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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE