

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Gas Detector**with type designation(s)
PIR 3000, DSIR

Issued to

Dräger Safety AG & Co. KGaA
Lübeck, Germany

is found to comply with

DNV GL 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 GL.**

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	C

Issued at **Hamburg** on **2020-04-01**for **DNV GL**This Certificate is valid until **2024-11-13**.DNV GL local station: **Hamburg**Approval Engineer: **Dariusz Lesniewski**

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: **262.1-031300-2**
Certificate No: **TAA00002HH**
Revision No: **1**

Product description

Infrared gas transmitter/sensor for continuous monitoring of combustible gases typical methane, propane and ethylene also within vapors
Measuring range 0 to 100% LEL
Sensor material stainless steel 316
Ingress protection IP65, IP66, IP67
Software version V 3.x

PIR 3000:

Explosion proof gas transmitter type ITR 00** with infrared sensor (IR-Sensor) type IDS00**
Power supply: 24V DC (10...30V DC)
Output signal: 4 to 20 mA
Failure signal: 1 mA

DSIR:

Explosion proof gas transmitter type ISH 00** with infrared sensor (IR-Sensor) type IDS00**
Power supply: 200...400 mA DC (constant current) or 2,5...5V DC (constant voltage)
Output signal: 45 to 55% of power supply, only in connection with the REGARD SE Ex card
Cable between DSIR und Controller to be a screened type and to be grounded at one end (refer to the maker's installation guideline)

Junction Box (code ITR/ISH 00**)

- ** = 01 : type Bartec, increased safety
- ** = 02 : type Hawke, increased safety
- ** = 10 : type Cortem, flameproof enclosure

IR-Sensor (code IDS 00**):

- ** = 01 : 3/4" NPT thread (PIR3000)
- ** = 11 : M25x1,5 thread (PIR3000)
- ** = 02 : 3/4" NPT thread (DSIR)
- ** = 12 : M25x1,5 thread (DSIR)

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Test Report: DEKRA EXAM no. 41300506P NIII
Test Report: Phoenix TESTLAB no. E143745E1
Test Report: TREO no. 089-19, 2019-07-08
Test Report: TÜV Nord no. 19045-4-R00
Test Report: paconsult no. 14-5911, 2014-04-17
Certificate: BVS 05 ATEX E 143 X, Sup. 9
Drawings mechanical: SE20250-13, SE20428-09, SE20348-00
Drawings PCB's assembly: SE20362-04, SE20363-02, SE20364-03, SE20367-02
Drawings schematic: SE20366-01, SE20369-01
Drawings software: SE20456-03
Instruction manuals: 9023812 Edition 12, 9023843 Edition 10
Type approval assessment report issued at Hamburg on 2019-07-09

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

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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
- 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