

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Fixed oxygen analysis and gas detection equipment

with type designation(s)
PIR 3000, DSIR

Issued to

Dräger Safety AG & Co. KGaA
Lübeck, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397**,
item No. MED/3.54. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15

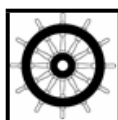
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-11-20**.

Issued at **Hamburg** on **2019-11-21**

DNV GL local station:
Hamburg

Approval Engineer:
Dariusz Lesniewski



Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



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 : ¾" NPT thread (PIR3000)
- ** = 11 : M25x1,5 thread (PIR3000)
- ** = 02 : ¾" NPT thread (DSIR)
- ** = 12 : M25x1,5 thread (DSIR)

Application/Limitation

The equipment is found to comply with following location/application dependent requirements:

Category:	TEMPERATURE	VIBRATION	EMC	ENCLOSURE
Location class:	TMP-D	VIB-A	EMC-B	ECL-C

Location class (location or test parameter):

- TMP-D : -25°C/+70°C (ref. IEC 60092-504 (2016) table 1 item 6-7)
- VIB-A : Acceleration 0,7g (ref. IEC 60092-504 (2016) table 1 item 10)
- EMC-B : Bridge and open deck zone (ref. IEC 60092-504 (2016) table 1 item 13-20)
- ECL-C : IP66/67, open deck, masts (ref. IEC 60092-504 (2016) table 1 item 9 and 12)

Type Examination documentation

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

Tests carried out

Applicable test standards:

- IEC 60092-504:2016
- IEC 60533:2015
- EN 60079-0:2012 incl. A11:2013
- EN 60079-29-1:2016

Job Id: **344.1-009323-1**
Certificate No: **MEDB00005BZ**

Not applicable test standards:

- EN 50104 (2010)
- IMO MSC.1/Circ.1370

Marking of product

The products to be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (wheel mark), followed by
- Identification number of the NoBo / the year the mark is affixed (example: 0098/2019)