

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)
[SD-10X/1DOX] & [SD-1RI/1DRI]

Issued to

Riken Keiki Co., Ltd
Itabashi-ku, Tokyo, Japan

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

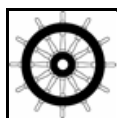
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-11-26**.

Issued at **Hamburg** on **2019-11-27**

DNV GL local station:
Yokohama

Approval Engineer:
Didier Girardin



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

Main technical data

[SD-10X & 1DOX] (D type for force aspiration)

Measuring component: O₂
Measuring range: 0-25 Vol%
Indicator: local LED display
Output: 4..20 mA, 1 Relay
Power: DC 24 V (1.1W)
Operating conditions: -10 to 40°C, below 95% RF
Dimensions: 148x208x88mm (SD-10X); 148x223x88mm (SD-1DOX)
Weight: 2.5 kg (SD-10X); 2.9 kg (SD-1DOX)
Ingress proof rating: IP65
ATEX cable gland M20x1.5, M25x1.5, G3/4, 1/2-14NPT, 3/4-14NPT

[SD-1RI & 1DRI] (D type for force aspiration)

Measuring component: methane, propane, isobutane
Measuring range: 0-100% LEL
Indicator: local LED display
Output: 4..20 mA, 1 Relay
Power: DC 24 V (2W)
Operating conditions: -20 to 60°C, below 95% RF
Dimensions: 148x167x88 mm (SD-1RI); 148x177x88mm (SD-1DRI)
Weight: 2.0 kg (SD-1RI); 2.2 kg (SD-1DRI);
Ingress proof rating: IP65
ATEX cable gland M20x1.5, M25x1.5, G3/4, 1/2-14NPT, 3/4-14NPT

Place of manufacture

Riken Keiki Co., Ltd
2-3.Minamisakae-cho, Kauskabe
SAITAMA, JAPAN 344-0067

Application/Limitation

- The equipment is compliant with following DNVGL location Class and application:
 - EMC-A : installation suitable except for Bridge zone (*IEC 60092-504 (2016) table 1 item 19-20*)
 - Enclosure: (IP65) (Location according *ref. IEC 60529/AMD2:2013*. Not suitable for open decks)
 - VIB-A : General applications (*ref. IEC 60092-504 (2016) table 1 item 10*)
 - TEMP-D : Location (-20°C to +60°C) (*ref. IEC 60092-504 (2016) table 1 item 6-7*), high temp. limited to +65°C due to EX-classification
- Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV GL.

Information on Ex-Certification received from manufacturer – Not verified by DNV GL		
Equipment	Certified	Certificate No.
SD-10X & SD-1DOX	Ⓔ II 2 G Ex db IIC T6 Gb, -20°C ≤ Ta ≤ +60°C	DEKRA 13ATEX0035 X
SD-1RI & SD-1DRI	Ⓔ II 2 G Ex db IIC T6 Gb, -20°C ≤ Ta ≤ +60°C	CML 15ATEX1034

Type Examination documentation

Hidden

GJR-576_Ricken Keiki dated 2019.07.18/08.08.2019 List of test reports

SD-1RI,-1DRI, -10X, -1DOX	IEC60529	[File No-19-011(E)]
SD-1RI,-1DRI, -10X, -1DOX	IEC60068-2-1,-2,-30	[File No-19-077(E)]
SD-1RI,-1DRI, -10X, -1DOX		[Report No-GJR-608]
SD-1RI,-1DRI	IEC60092-504, 60533	[File No-400-180099]
SD-10X, -1DOX	IEC60092-504, 60533	[File No-400-180100]
SD-1RI,1DRI	IEC60068-2-6	[File No-19-082(E)]
SD-10X,1DOX	IEC60068-2-6	[File No-19-081(E)]
SD-1RI,1DRI	EN60079-29-1	[File No-41500919P]
SD-1RI,1DRI	EN50271	[File No-320-16264T]
SD-10X,1DOX	EN50271	[File No-320-16262T]
SD-10X,1DOX	IEC60068-2-52	[File No-190204-2-2]
SD-1RI, SD-DRI	IEC60068-2-52	[File No-190204-2-1]
SD-10X,1DOX	EN50104	[File No-41501019P]

EU type examination Certificate

CML Ex 15ATEX1034 issue 4 EN 60079 0 _ 2012_A11_2013

SD-10X, 1DOX issue 5 EN 60079 0 _ 2012_A11_2013

Tests carried out

IEC 60092-504:2016	->	[SD-10X/1DOX] & [SD-1RI/1DRI]
IEC 60533:2015.	->	[SD-10X/1DOX] & [SD-1RI/1DRI]
<i>Category 3: (explosive gas atmospheres),</i>		
EN 50104:2010,	->	[SD-10X/1DOX]
EN 60079-0 :2012 incl. A11 :2013,	->	[SD-10X/1DOX] & [SD-1RI/1DRI]
EN 60079-29-1:2016.	->	[SD-1RI/1DRI]

Marking of product

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (see front page)