



## EU Type Examination Certificate CML 15ATEX1034 Issue 4

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **SD-1RI and SD-1DRI Gas Detectors**
- 3 Manufacturer **RIKEN KEIKI Co., Ltd.**
- 4 Address 2-7-6 Azusawa Itabashi-ku.  
Tokyo,  
174-8744  
Japan
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Certification Management Limited, Unit 1 Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK, Notified Body Number 2503, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

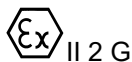
The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2012:A11:2013

EN 60079-1:2014

- 10 The equipment shall be marked with the following:



II 2 G

Ex db IIC T6 Gb

Ta= Up to -20°C to +60°C



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## 11 Description

The SD-1RI and SD-1DRI Gas Detectors are flameproof and rated at 24Vdc, 85mA. They are a range of gas detector sensors, which incorporate an infrared gas sensor.

The SD-1RI and SD-1DRI Flameproof Gas detectors consist of an aluminium body and flanged lid, with a display window, a gas sensor, flame arrestor and guard at the bottom of the gas detector. Cable entry into the enclosure is via a cable gland at the bottom of the enclosure body.

Special fasteners are Stainless steel A2-70 or A4-70 screws.

The Gas Detectors have both an internal and external earth point.

### Variation 1

- i. Change of name from “SD-1\*\* Range of Gas Detectors” to “SD-1RI and SD-1DRI Gas Detectors”.
- ii. To permit an alternative material for cable entry adaptors.
- iii. To permit an alternative material for the fasteners.
- iv. The description was modified in accordance with the above modifications.

### Variation 2

To permit an alternative material for the fasteners

- i. Minor corrections to some drawings
- ii. To update certificate to reference the 2014/34/EU Directive.

### Variation 3

To permit an alternative material for the fasteners

- i. To permit the change in material of the guard and cable gland

### Variation 4

- i. Update certificate to EN 60079-1:2014 Ed 7

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	19 Mar 2015	R460A/00	Issue of prime certificate
1	28/03/2016	R1053A/00	To introduce variation 1
2	01/08/2016	R1218A/00	To introduce variation 2
3	12/05/2017	R1615B/00	To introduce variation 3
4	12/05/2017	R1736A/00	To introduce variation 4

Note: Drawings that describe the equipment or component are listed in the Annex.



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### **13 Conditions of manufacture**

The following conditions are required of the manufacturing process for compliance with the certification.

- 13.1 Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

### **14 Special Conditions for Safe Use (Conditions of Certification)**

The following conditions relate to safe installation and/or use of the equipment.

None

## Certificate Annex



**Certificate Number** CML 15ATEX1034  
**Equipment** SD-1R1 and SD-1DR1 Gas Detectors  
**Manufacturer** RIKEN KEIKI Co., Ltd.

The following documents describe the equipment or component defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
M3-4288-11-05K	1 of 1	0	19/03/2015	Gas Detector
M3-4288-11-04K	1 of 1	1	19/03/2015	Details of Internal Part 1 A-A~D-D Section (SD-1RI)
M3-4288-11-06K	1 of 1	1	19/03/2015	Cable Entry
M3-4288-11-03K	1 of 1	0	19/03/2015	Socket
M4-4288-11-02K	1 of 1	1	19/03/2015	Name Plate
M4-4630-11-02K	1 of 1	0	19/03/2015	Gas Sensor – Infrared Method
E4-6991-5327-90-01E	1 of 1	0	19/03/2015	Energy measurement SD-1RI/SD-1DRI
E4-6991-5327-90-02E	1 of 1	0	19/03/2015	Energy measurement SD-1RI(HART) / SD-1DRI(HART)
E3-6991-5328-60-03E	1 of 1	0	19/03/2015	Final Version of Diagram SD-1RI/SD-1DRI
E3-6991-5328-60-04E	1 of 1	0	19/03/2015	Final Version of Diagram SD-1RI(HART) / SD-1DRI(HART)
E4-6991-5321-50-01E	1 of 1	0	19/03/2015	Internal Wiring SD-1RI/SD-1DRI
E4-6991-5321-50-02E	1 of 1	0	19/03/2015	Internal Wiring SD-1RI(HART) / SD-1DRI(HART)
E3-6991-5328-60-01E	1 of 1	0	19/03/2015	Electrical Diagram SD-1RI/SD-1DRI
E3-6991-5328-60-02E	1 of 1	0	19/03/2015	Electrical Diagram SD-1RI(HART) / SD-1DRI(HART)
M4-4287-35-12K	1 of 1	0	19/03/2015	PCB Holder
M4-4287-4392-02K	1 of 1	0	19/03/2015	Support Plate
M4-4287-35-13K	1 of 1	0	19/03/2015	Packing
M4-4287-35-14K	1 of 1	0	19/03/2015	Ring
M3-4288-12-03K	1 of 1	0	19/03/2015	Gas Sensor
M3-4288-12-02K	1 of 1	0	19/03/2015	Details of Internal Part 1 A-A~E-E Section (SD-1DRI)
M4-4288-12-02K	1 of 1	1	19/03/2015	Name Plate SD-1DRI

## Certificate Annex



**Certificate Number** CML 15ATEX1034  
**Equipment** SD-1R1 and SD-1DR1 Gas Detectors  
**Manufacturer** RIKEN KEIKI Co., Ltd.

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
M3-4288-11-05K	1 of 1	3	28/03/2016	GAS DETECTOR
M3-4288-11-06K	1 of 1	3	28/03/2016	CABLE ENTRY

### Issue 2

Drawing No	Sheets	Rev	Approved date	Title
M3-4288-12-03K	1 of 1	2	01/08/2016	Gas Detector
M3-4288-11-04K	1 of 1	2	01/08/2016	Details of internal parts A-A ~ E-E Section
M3-4288-12-02K	1 of 1	2	01/08/2016	Details of internal parts A-A ~ E-E Section

### Issue 3

Drawing No	Sheets	Rev	Approved date	Title
M3-4288-12-03K	1	3	28 Nov 2016	Gas Detector
M3-4288-11-05K	1	4	28 Nov 2016	Gas Detector
M3-4288-11-06K	1	4	28 Nov 2016	Cable Entry

### Issue 4

Drawing No	Sheets	Rev	Approved date	Title
M4-4288-11-02K	1 of 1	3	12/05/2017	NAME PLATE SD-1RI
M4-4288-12-02K	1 of 1	3	12/05/2017	NAME PLATE SD-1DRI