



## EU Type Examination Certificate CML 15ATEX1027 Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **GD-A80\*\* Range of 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.

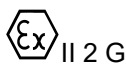
The examination and test results are recorded in the confidential reports listed in Section 12.

- 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:



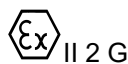
Ex db IIC T4 Gb

Ta = -40 °C to +53 °C

See Description:

GD-A80\*, GD-A80\*V,

GD-A80\*N, GD-A80\*S



Ex db IIC T4 Gb

Ta = -40°C to +70 °C

See Description

GD-A80\*-70



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## 11 Description

The GD-A80\*\* Range of Gas Detectors are flameproof are a range of gas detector sensors, which incorporate 4 sensor types:

- Catalytic combustion Method
- Thermal Conductivity Method
- Hot wire Type Semi-Conductor Method
- Semi-Conductor Method

The GD-A80 and GD-A80D Flameproof Gas detectors consist of an aluminium body and rear access lid, a gas sensor and guard fit to the front of the gas detector and entry into the enclosure is via an integral cable gland arrangement, which may include an adaptor.

The lid and sensor guard are secured via M5 x 20mm – 6H/6g Stainless steel hexagon socket head A2-70 cap screws.

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

### Model Nomenclature:

<b>GD</b>	-	<b>A</b>	<b>80</b>	*	*	-	*
1		2	3	4	5		6

### Model description:

Ref.	Prefix	Description details
1	GD	Gas detector
2	A	Diffusion type
3	80	Constant number
4	Suction chamber	
	D	With suction chamber
	Blank	Without suction chamber
5	Sensor Type	
	Blank	Catalytic Combustion Method
	V	Semi-Conductor Method
	N	Thermal Conductivity Method
	S	Hot Wire type Semi-conductor Method
6	Blank	Ambient Temperature -40 °C to + 53 °C
	70	Ambient Temperature -40 °C to + 70 °C



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#### Ratings:

Sensor Type	Electrical ratings
Catalytic combustion Method (GD-A80*)	3 Vdc / 430mA or 5 Vdc / 200mA
Semi-Conductor Method (GD-A80*V)	6.5 Vdc / 205mA or 3.5 Vdc / 350mA
Thermal Conductivity Method (GD-A80*N)	3.3 Vdc / 170mA or 1 Vdc / 220mA
Hot Wire type Semi-conductor Method (GD-A80*S)	3 Vdc / 500mA or 5 Vdc / 200mA
Ambient Temperature: -40 °C to +53 °C	

Sensor Type	Electrical ratings
Catalytic Combustion Method (GD-A80*-70)	3 Vdc / 430 mA or 5 Vdc / 200 mA
Ambient Temperature: -40 °C to +70 °C	

#### Variation 1

To permit the introduction of Additional of Gas Detectors of type GD-A80D-70 and GD-A80-70 that use the Catalytic Combustion Method in higher ambient temperature of +70 °C. The description has been updated to incorporate the new models.

#### Variation 2

- i. To update the certificate reference to the 2014//34/EU Directive.
- ii. Update certificate to EN 60079-1:2014 Ed 7, the marking code has been updated accordingly.

#### 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	19/03/2015	R157A/00	Issue of prime certificate
1	04/12/2015	R592A/00	Introduction of Variation 1
2	12/05/2017	R1738A/00	Introduction of Variation 2

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 15ATEX1027  
**Equipment** GD-A80\*\* 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
M3-4261-80-05K	1 of 1	0	19/03/2015	Gas Detector
M3-4261-80-08K	1 of 1	0	19/03/2015	Details of Internal Part A-A~E-E Section
M3-4261-80-10K	1 of 1	0	19/03/2015	Cable Entry 1
M4-4261-80-05K	1 of 1	0	19/03/2015	Terminal
M4-4261-80-06K	1 of 1	3	19/03/2015	Name Plate GD-A80
M3-4261-80-07K	1 of 1	0	19/03/2015	Details of Internal Part C-C Section
M4-4062-01-02K	1 of 1	0	19/03/2015	Gas Sensor – Catalytic Combustion Method
E4-6991-5051-10-01E	1 of 1	0	19/03/2015	Gas Sensor A – Circuit Diagram
M4-4085-01-02K	1 of 1	0	19/03/2015	Gas Sensor – Semi-Conductor Method
E4-6991-5212-00-01E	1 of 1	0	19/03/2015	Semi-Conductor Sensor – Circuit Diagram
M4-4086-00-02K	1 of 1	0	19/03/2015	Gas Sensor – Hot Wire Type Semi-Conductor Method
E4-6991-5290-80-01E	1 of 1	0	19/03/2015	HW Semi-Conductor Sensor – Circuit Diagram
M4-4075-00-02K	1 of 1	0	19/03/2015	Gas Sensor – Thermal Conductivity Method
E4-6991-5291-50-01E	1 of 1	0	19/03/2015	TH Conductivity Sensor – Circuit Diagram
M3-4261-91-01K	1 of 1	0	19/03/2015	Gas Detector
M3-4261-91-05K	1 of 1	0	19/03/2015	Details of Internal Part A-A~E-E Section
M4-4261-91-02K	1 of 1	3	19/03/2015	Name Plate GD-A80D

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
M4-4261-81-02K	1 of 1	2	04/12/2015	Name Plate GD-A80-70
M4-4261-97-01K	1 of 1	2	04/12/2015	Name Plate GD-A80D-70

## Certificate Annex



**Certificate Number** CML 15ATEX1027  
**Equipment** GD-A80\*\* Gas Detectors  
**Manufacturer** RIKEN KEIKI Co., Ltd.

### Issue 2

Drawing No	Sheets	Rev	Approved date	Title
M4-4261-80-06K	1 of 1	5	12/05/2017	NAME PLATE GD-A80
M4-4261-97-01K	1 of 1	4	12/05/2017	NAME PLATE GD-A80D-70
M4-4261-81-02K	1 of 1	4	12/05/2017	NAME PLATE GD-A80-70
M4-4261-91-02K	1 of 1	5	12/05/2017	NAME PLATE GD-A80D