IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx DEK 21.0057X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2022-10-12)
Date of Issue:	2024-04-26		
Applicant:	**RIKEN KEIKI Co., Ltd.** 2-7-6, Azusawa, Itabashi-ku, Tokyo, 174-8744, **Japan**		
Equipment:	**Portable Gas Detector 9000 series, models GX-9000, GX-9000H, SC-9000**		
Optional accessory:			
Type of Protection:	**Ex ia, Ex da**		
Marking:	Ex da ia IIC T4...T3 Ga or Ex ia IIC T4...T3 Ga		

Approved for issue on behalf of the IECEx Certification Body: **L.G. van Schie**

Position: **Certification Manager**

Signature: (for printed version)

Date: (for printed version) 2024-04-26

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Meander 1051
6825 MJ Arnhem
Netherlands

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Certificate No.: **IECEx DEK 21.0057X**

Date of issue: 2024-04-26

Issue No: 1

Manufacturer: **RIKEN KEIKI Co., Ltd.**
2-7-6, Azusawa, Itabashi-ku,
Tokyo, 174-8744,
Japan

Manufacturing locations:

RIKEN KEIKI NARA MFG. Co., Ltd.
49-1, Abe, Sakurai-shi,
Nara, 633-0054,
Japan

RIKEN KEIKI Co., Ltd.
2-3, Minamisakae-cho,
Kasukabe-shi,
Saitama, 344-0057,
Japan

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

NL/DEK/ExTR21.0038/00 NL/DEK/ExTR21.0064/01

Quality Assessment Reports:

NL/DEK/QAR23.0010/00 NL/DEK/QAR23.0011/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Portable Gas Detector 9000 series is designed to provide continuous exposure monitoring of up to 6 mixture toxic gases and/or oxygen by suction type method.

It contains up to 3 R-sensors for the measurement of oxygen (O_2), hydrogen sulphide (H_2S) and carbon monoxide (CO) as well as maximum of 3 F-sensors out of 5 sensors for measuring of combustible gases, toxic gases, CO_2 and VOC.

F-sensor will internally process concertation calculation and transmit digital data from gas concentration to the main CPU.

Gas sampling is done by the internal pump. Up to two pumps can be installed, sampling of two systems is possible.

The measurement results are displayed on the LCD while gas alarms can be issued via LED and buzzer.

The examination of the Portable Gas Detector does not include a judgment of the functional performance of the apparatus.

For more information see Annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:
For ambient temperature range see thermal data in Annex 1.

Equipment must be prevented from impact to the buzzer opening at the enclosure.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

1. Minor changes on the label drawing.
2. Linked to new QARs.
3. Manufacturing location Ebina Denki is no longer listed.
4. Correction in Annex 1

Annex:

228482000-15-Annex1.pdf

Annex 1 to: Report No. NL/DEK/ExTR21.0064/01
IECEx DEK 21.0057X

Description

The Portable Gas Monitor 9000 series is designed to provide continuous exposure monitoring of up to 6 mixture toxic gases and/or oxygen by suction type method.

It contains up to 3 R-sensors for the measurement of oxygen (O_2), hydrogen sulphide (H_2S) and carbon monoxide (CO) as well as maximum of 3 F-sensors out of 5 sensors for measuring of combustible gases, toxic gases, CO_2 and VOC.

F-sensor will internally process concertation calculation and transmit digital data from gas concentration to the main CPU.

Gas sampling is done by the internal pump. Up to two pumps can be installed, sampling of two systems is possible.

The measurement results are displayed on the LCD while gas alarms can be issued via LED and buzzer.

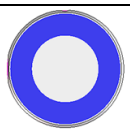
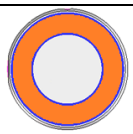
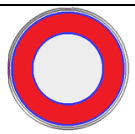
The examination of the Portable Gas Monitor does not include a judgment of the functional performance of the apparatus.

Type designation

The type GX-9000 contains all sensor combinations.
The type GX-9000H is limited to combinations of
R-sensors for detection of O_2 and low concentration of H_2S,
F-sensors ESF for detection of high concentration of H_2S and
F-sensors IRF.
The type SC-9000 is limited to multiple of ESF sensors.

Following sensor options are available:

R-sensors

Name	ESR (3EC)	ESR (3EC)	ESR (3EC) or ESR (4EC)
Target Gas	O_2	H_2S	CO
Appearance			
Detection Principle	Electro Chemical	Electro Chemical	Electro Chemical

F-sensors

Name	NCF	TEF	ESF	IRF	PIF
Target Gas	Combustible	Combustible	Toxic	CO_2 / CH_4 / HC	VOC
Range	%LEL	VOL%	ppm	ppm / vol%	ppb / ppm
Appearance					
Detection principle	Catalytic	Thermal Conductivity	Electro Chemical	NDIR	PID

Marking variations and thermal data

The relation between type of battery, combustible gas thermo-catalytic sensor NC-6322, ambient temperature range and marking symbols is given below:

Marking code	Ambient temperature	Combustible gas thermo-catalytic sensor NC-6322	Battery unit	Cell type
Ex da ia IIC T4 Ga	-40 °C to +60 °C	Yes	BUL-9000	NCR18650GA (Panasonic)
Ex ia IIC T4 Ga		No		
Ex da ia IIC T4 Ga	-40 °C to +60 °C	Yes	BUD-9000	LR6 (Toshiba)
Ex ia IIC T4 Ga		No		
Ex da ia IIC T4 Ga	-40 °C to +40 °C	Yes	BUD-9000	MN1500 (Duracell)
Ex ia IIC T4 Ga		No		
Ex da ia IIC T3 Ga	-40 °C to +60 °C	Yes		
Ex ia IIC T3 Ga		No		

Electrical data

Supply:
Battery unit type BUD-9000 with 6 Alkaline Manganese AA batteries (2 parallel lines of 3 in series connected batteries), type LR6 manufactured by Toshiba or type MN1500 manufactured by Duracell
or
battery unit type BUL-9000 with 3 lithium-ion rechargeable batteries (parallelly connected), type NCR18650GA manufactured by Panasonic.

Main unit backup battery type CR1220 manufactured by Maxell.
ESF sensor backup battery type CR1632 manufactured by MuRata.