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# EU-TYPE EXAMINATION CERTIFICATE

- [2] Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014
- [3] EU-Type Examination Certificate Number: **DNV 22 ATEX 05201X** **Issue 0**
- [4] Product: **Portable gas detector, GX-Force**
- [5] Manufacturer: **RIKEN KEIKI Co., Ltd.**
- [6] Address: **2-7-6, Azusawa, Itabashi-Ku,  
Tokyo, 174-8744,  
Japan**
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV Product Assurance AS, notified body number 2460, in accordance with Article 17 and Article 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
- The examination and test results are recorded in confidential reports listed in item 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: **EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-11:2012**
- Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.
- [10] If the sign “X” is placed after the certificate number, it indicates that the product is subject to the “Specific Conditions of Use” listed under item 17 of this certificate.
- [11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:



**II 1 G Ex da ia IIC T4 Ga -20°C ≤ Ta ≤ +60°C (Including flammable gas sensor.)**  
**II 1 G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +60°C (Not including flammable gas sensor.)**

Date of issue:  
2022-07-07



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For DNV Product Assurance AS  
The Certificate has been digitally signed.  
See [www.dnv.com/digitalsignatures](http://www.dnv.com/digitalsignatures) for info



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**Schedule**

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**EU-Type Examination Certificate No:**

DNV 22 ATEX 05201X

Issue 0

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**Description of Product**

GX-Force is a portable suction type gas detector which can measure 4 kinds of gases. For gas sensors, electrochemical type and catalytic type are used. For the battery, one cell of 18650 type lithium ion secondary battery is used, which must be charged in a non-hazardous location. Users will never have to replace the battery.

This unit contains 2 buttons, LCD display screen, and LEDs for alarm on both sides and top. Internally, one each pump, buzzer, and vibration motor are mounted. When the power is supplied, the pump will be activated for suction, and the unit starts gas detection. Gas concentration is always displayed on the LCD screen. When a gas is detected, the indicator value on the LCD screen goes up, and when it reaches to the alarm level, LED buzzer, vibration motor will be activated and notify the user that the gas was detected.

The sensors to be mounted are electrochemical type and catalytic type. The electrochemical type sensor detects CO (carbon monoxide), H<sub>2</sub>S (hydrogen sulphide), and O<sub>2</sub> (oxygen). The catalytic type sensor detects flammable gases. It uses catalyst, and therefore needs to apply with "da".

Charging shall be done in a non-hazardous location. The charging terminal is USB TYPE C, and only a use of a charger exclusively specified for it, IEC60950-certified SELV power supply, or IEC62368-1-certified ES1 power supply is approved for charging. Charging method is CCCV, and a control is performed by a dedicated IC. Rechargeable temperature range is between +10°C and +40°C.

**Type designation**

GX-Force

Three different gas sensors are used:

Model ESR-A1DP: measures CO/H<sub>2</sub>S (electrochemical principle)

Model ESR-X13P: measures O<sub>2</sub> (electrochemical principle)

Model NCR-6309: measures flammables (catalytic)

**Electrical Data**

Battery powered, single secondary cell Panasonic type NCR18650GA.

Nominal voltage: 3,6V

Maximum open circuit voltage: 4,2V

**Ambient temperature:**

-20°C to +60°C

**Routine tests**

None

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**Report No.:** PRJN-313142-2021-PA-NOR

[17] **Specific Conditions of Use**

Charging terminal, Um: 6,0V.

The measuring function according to Annex II paragraph 1.5.5 of the Directive is not covered this EU-type examination. It shall comply with the requirements from the relevant European harmonized standards which provide guidance on the performance of gas detection equipment.

[18] **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

[19] **Drawings and documents**

Number	Title	Rev.	Date
E4-6991-6235-70-01K	INDEX GX-Force	8	2022.06.16

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2022-07-07	PRJN-313142-2021-PA-NOR

END OF CERTIFICATE