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 24.0015X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2024-08-22) Issue 0 (2024-06-12)
Date of Issue:	2025-07-06		
Applicant:	**RIKEN KEIKI Co., Ltd.** 2-7-6, Azusawa, Itabashi-ku, Tokyo, 174-8744, **Japan**		
Equipment:	**Gas detectors type SD-3 and GD-3**		
Optional accessory:			
Type of Protection:	**Ex d, Ex i, Ex op is**		
Marking:	Ex db IIC T6…T4 Gb Ex db ia IIC T4 Gb Ex db [op is] IIC T4 Gb		

Approved for issue on behalf of the IECEx Certification Body: **R. Schuller**

Position: **Certification Manager**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

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Certificate No.: **IECEx DEK 24.0015X**

Date of issue: 2025-07-06 Issue No: 2

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

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

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

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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 Report:

NL/DEK/ExTR24.0018/02

Quality Assessment Reports:

NL/DEK/QAR23.0010/02 NL/DEK/QAR23.0011/00

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

The gas detectors type SD-3 and GD-3 are stationary, continuous-monitoring detectors which operate in accordance with two detection principles (diffusion and suction) and six detection methods (non-dispersive infrared absorption method, solid sensor semi-conductor, catalytic combustion method, hot wire type semiconductor method, thermal conductivity method and potentiostatic electrolysis method).

They consist of flameproof enclosures with included sensor unit which can be either intrinsically safe (EC barrier) or flameproof with or without inherently safe optical radiation source.
Remote sensor head RIP models include a heater and optical radiation source mounted inside a flameproof enclosure.
Equipment contains the connection terminals for field connection and is provided with threaded holes M25, NPT ½" or NPT ¾" intended for Ex certified threaded entry devices.

The examination of the gas detector does not include a judgment of the functional performance of the equipment.

For more information about Type designation, Thermal data and Electrical data see Annex 1.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The equipment with glass window plate must only be placed in areas with low risk of mechanical danger.
2. Refer to manufacturer's instructions for ambient temperature and T-class.
3. The flameproof joints are not intended to be repaired.
4. The manufacturer's instructions provide guidance for the user to minimize the risk from electrostatic discharge. Maximum capacitance of 6 nF can occur.
5. If the surge protection device are attached to the flameproof enclosure it shall be provided with a high strength locking compound on the mounting thread.
6. The property class of (M5) fastening screws used for fixing of the parts of the sensor head flameproof enclosure of "RIP" models specified by the manufacturer is A4-70.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New models of Gas Detector, Type SD-3NPM, SD-3DNPM and GD-3NPM are added.

Annex:

230051700-Annex 1 to ExTR24.0018.02.pdf

Annex 1 to: Report No. NL/DEK/ExTR24.0018/02
IECEx DEK 24.0015X

Electrical data
Supply voltage: 24 VDC
Analogue output: 24 VDC, 4-20 mA
Relays: 30 VDC – 1 A or 250 VAC – 2 A

Type Designation: SD-3 and GD-3
Tables below give relation between model, Ex code and ambient temperature range.

Applicable models without surge protection device or HART adapter

Model	Ex code	Ambient temperature	Note
SD-3RI SD-3DRI GD-3RI	Ex db IIC T6…T5 Gb	-50 °C to +60 °C (T6) -50 °C to +70 °C (T5)	
SD-3GH SD-3DGH GD-3GH	Ex db IIC T5…T4 Gb	-50 °C to +44 °C (T5) -50 °C to +70 °C (T4)	
SD-3GHS SD-3DGHS GD-3GHS	Ex db IIC T6…T4 Gb	-50 °C to +47 °C (T6) -50 °C to +70 °C (T4)	
SD-3NC SD-3DNC GD-3NC	Ex db IIC T5…T4 Gb	-50 °C to +44 °C (T5) -50 °C to +70 °C (T4)	
SD-3SP SD-3DSP GD-3SP	Ex db IIC T5…T4 Gb	-50 °C to +55 °C (T5) -50 °C to +70 °C (T4)	
SD-3NP SD-3DNP GD-3NP	Ex db IIC T5…T4 Gb	-50 °C to +55 °C (T5) -50 °C to +70 °C (T4)	
SD-3NPM SD-3DNPM GD-3NPM	Ex db IIC T4 Gb	-50 °C to +70 °C	
SD-3EC SD-3DEC GD-3EC	Ex db IIC T4 Gb	-50 °C to +70 °C	
SD-3ECS SD-3DECS GD-3ECS	Ex db IIC T4 Gb	-50 °C to +70 °C	
SD-3ECB SD-3DECB GD-3ECB	Ex db ia IIC T4 Gb	-40 °C to +70 °C	
SD-3RIP SD-3DRIP GD-3RIP	Ex db [op is] IIC T4 Gb	-50 °C to +70 °C	
SD-3SC	Ex db IIC T6…T4 Gb	-50 °C to +47 °C (T6) -50 °C to +55 °C (T5) -50 °C to +70 °C (T4)	When combined with: GD-3GHS, GD-3SP, GD-3NP, GD-3EC, GD-3ECS, GD-3NPM
SD-3SC	Ex db IIC T5…T4 Gb	-50 °C to +44 °C (T5) -50 °C to +70 °C (T4)	When combined with: GD-3GH, GD-3NC
SD-3SC	Ex db IIC T6…T5 Gb	-50 °C to +60 °C (T6) -50 °C to +70 °C (T5)	When combined with: GD-3RI
SD-3SC	Ex db IIC T4 Gb	-40 °C to +70 °C	When combined with: GD-3ECB
SD-3SC	Ex db IIC T4 Gb	-50 °C to +70 °C	When combined with: GD-3RIP

Applicable models with surge protection device or HART adapter

Model	Ex code	Ambient temperature	Note
SD-3RI SD-3DRI GD-3RI	Ex db IIC T6…T5 Gb	-40 °C to +60 °C (T6) -40 °C to +70 °C (T5)	
SD-3GH SD-3DGH GD-3GH	Ex db IIC T5…T4 Gb	-40 °C to +44 °C (T5) -40 °C to +70 °C (T4)	
SD-3GHS SD-3DGHS GD-3GHS	Ex db IIC T6…T4 Gb	-40 °C to +47 °C (T6) -40 °C to +70 °C (T4)	
SD-3NC SD-3DNC GD-3NC	Ex db IIC T5…T4 Gb	-40 °C to +44 °C (T5) -40 °C to +70 °C (T4)	
SD-3SP SD-3DSP GD-3SP	Ex db IIC T5…T4 Gb	-40 °C to +55 °C (T5) -40 °C to +70 °C (T4)	
SD-3NP SD-3DNP GD-3NP	Ex db IIC T5…T4 Gb	-40 °C to +55 °C (T5) -40 °C to +70 °C (T4)	
SD-3NPM SD-3DNPM GD-3NPM	Ex db IIC T4 Gb	-40 °C to +70 °C	
SD-3EC SD-3DEC GD-3EC	Ex db IIC T4 Gb	-40 °C to +70 °C	
SD-3ECS SD-3DECS GD-3ECS	Ex db IIC T4 Gb	-40 °C to +70 °C	
SD-3ECB SD-3DECB GD-3ECB	Ex db ia IIC T4 Gb	-40 °C to +70 °C	
SD-3RIP SD-3DRIP GD-3RIP	Ex db [op is] IIC T4 Gb	-40 °C to +70 °C	
SD-3SC	Ex db IIC T6…T4 Gb	-40 °C to +47 °C (T6) -40 °C to +55 °C (T5) -40 °C to +70 °C (T4)	When combined with: GD-3GHS, GD-3SP, GD-3NP, GD-3EC, GD-3ECS, GD-3NPM
SD-3SC	Ex db IIC T5…T4 Gb	-40 °C to +44 °C (T5) -40 °C to +70 °C (T4)	When combined with: GD-3GH, GD-3NC
SD-3SC	Ex db IIC T6…T5 Gb	-40 °C to +60 °C (T6) -40 °C to +70 °C (T5)	When combined with: GD-3RI
SD-3SC	Ex db IIC T4 Gb	-40 °C to +70 °C	When combined with: GD-3ECB
SD-3SC	Ex db IIC T4 Gb	-40 °C to +70 °C	When combined with: GD-3RIP