



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: **IECEX SIR 04.0031U** issue No.:9

Status: **Current**

Date of Issue: **2016-02-12** Page 1 of 5

Applicant: **SGX Europe Sp. z o.o.**
Ligocka 103
40-568 Katowice
Poland

Certificate history:
Issue No. 9 (2016-2-12)
Issue No. 8 (2015-3-23)
Issue No. 7 (2014-11-7)
Issue No. 6 (2013-9-27)
Issue No. 5 (2012-11-14)
Issue No. 4 (2012-4-24)
Issue No. 3 (2011-2-14)
Issue No. 2 (2009-3-2)
Issue No. 1 (2008-6-24)
Issue No. 0 (2004-12-3)

Electrical Apparatus: **'IR-Series Gas Sensors'**
Optional accessory:

Type of Protection: **Flameproof**

Marking: **Ex db IIC Gb**

*Approved for issue on behalf of the IECEx
Certification Body:* R A Craig

Position: Certification Support Officer

*Signature:
(for printed version)*

Date: 2016-02-12

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.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden
Deeside
CH5 3US
United Kingdom

sira
CERTIFICATION





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Manufacturer: **SGX Europe Sp. z o.o.**
Ligocka 103
40-568 Katowice
Poland

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-1 : 2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition: 7.0

*This Certificate **does not** indicate compliance with electrical 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

IECEX ATR:

UK/SIR/04/10461 GB/SIR/ExTR12.0093/00

GB/SIR/ExTR14.0141/00

GB/SIR/ExTR09.0023/00. GB/SIR/QAR07.0026/02

GB/SIR/ExTR09.0026/00. GB/SIR/ExTR11.0020/00,

GB/SIR/ExTR14.0141/00 GB/SIR/ExTR14.0264/00

File Reference:

R51L10311A and R51L10461A

55L11068, GB/SIR/QAR12.0027/00

GB/SIR/QAR07.0026/03/ GB/SIR/ExTR12.0250/00

GB/SIR/ExTR13.0246/00, GB/SIR/ExTR15.0293/00 -

PL/OBAC/QAR16.0001/00



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The IR-Series Gas Sensors Gas Sensing Head comprises a cylindrical stainless steel body housing an infra-red emitter and one or more detectors. Electrical connections are made via pins that pass through a potting compound at the rear of the device. Gas enters the device via two wire meshes, one of which is brazed into the inside of the front face of the enclosure, the second retained by the internal components. The meshes offer a protection against dust ingress of IP5X

The detector is a pyroelectric type and may be varied to detect a number of different gases. The dual-detector (TO-5/TO-39) versions have seven pins, the single detector (TO-18) versions have six or eight pins. If required, all versions of the IR-Series Gas Sensors (apart from the models excluded in the Schedule of Limitations) may be used in intrinsically safe circuits as a galvanically isolating device with infallible separations between the lamp and detector circuits up to 10 V. The maximum input power is 2.5 W

CONDITIONS OF CERTIFICATION: NO

Empty box for conditions of certification.



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EQUIPMENT(continued):

Schedule of limitations

The user/installer shall comply with the following:

- These Gas Sensing Heads shall be installed/used in accordance with the following restrictions:

Ref.	Safety description when used in an IS circuit			Power (W)	Ambient temp. (°C)
	Lamp	Detector	Lamp+detector		
IR1nBD	Ui = 7.2 V, Ci = 0, Li = 0	Ui = 10 V, Ci = 0, Li = 0	Pi = 2.5 W	2.5	-20 to +55
IR1nBR	Ui = 7.2 V, Ci = 0, Li = 0	Ui = 10 V, Ci = 0, Li = 0	Pi = 2.5 W	2.5	-20 to +55
IR15TT	Not IS			2.5	-20 to +55
IR15TT-R	Not IS			2.5	-20 to +55
IR1nEM	Not IS			2.5	-20 to +55
IR1nEJ	Not IS			2.5	-20 to +55
IR1nGM	Not IS			2.5	-20 to +55
IR1nGJ	Not IS			2.5	-20 to +55
IR1nGJS	Not IS			1.5	-40 to +75
INIR-GG	Not IS			1.5	-40 to +75
IR15TT-A	Not IS			1.5	-25 to +75

- The thermal resistance of the Gas Sensing Heads do not exceed 25 K/W. This shall be taken into account when considering its surface temperature and the temperature classification of the equipment into which it is to be incorporated. Tests indicated that an internal ignition raises the temperature of the mesh by a further 4.2 K (including a 1.2 safety factor).
- The Gas Sensing Heads shall be protected from impact in service. The Sensing Head shall be mounted in a protective enclosure such that an impact of 7 J in accordance with IEC 60079-0:2007 clause 26.4.2 from any direction shall not cause the impact head to make contact with the Sensing Head.
- The IR1nGJS Series shall not be used with the following active detectors:
H545579A (carbon dioxide), H545580A (methane), H545581A (reference), H548533A (hydrocarbon)
H549098A (acetylene) & H773980-series (various TO18 detectors)
- The Gas Sensing Heads are dust-proof (IP5X) but offer no protection against the ingress of water. Where protection in excess of IP50 is required, then the apparatus into which the Gas Sensing Head is installed shall provide the necessary ingress protection (for example by fitting an external semi-permeable membrane).



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 5 to Issue 7 – for changes refer to Issue 7	
Issue 8 – this Issue introduced the following change:	
1	Following appropriate re-assessment to demonstrate compliance with the requirements of the latest technical knowledge, the documents originally listed, IEC 60079-0: 2007 Ed 5 and IEC 60079-1:2007-04 Ed. 6, were replaced by IEC 60079-0: 2011 Ed 6 and IEC 60079-1: 2014 Ed. 7.
Issue 9 – this Issue introduced the following change:	
1.	The Applicant's and Manufacturer's name and address was changed from SGX Sensortech (IS) Ltd 2 Hanbury Road, Widford Industrial Estate, Chelmsford, Essex CM1 3AE, UK to SGX Europe Sp. z o.o, Ligocka 103, 40-568 Katowice, Poland.