1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 08ATEX1325U** Issue: **7**

4 Component: **7100, 8100, 8100Vx, 8100Px and 8100K Series of Instrument Enclosures and Junction Boxes**

5 Applicant: **International Metal Engineering Pte Ltd**

6 Address: Blk 13
Toa Payoh Lorong 8
06-05 Braddell Tech Park
Singapore
31926

7 This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component 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 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-31:2014

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any limitations of use are listed in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:

II 2GD
Ex db IIC Gb
Ex tb Db IIIC
Ta = -40°C to +85°C

Project Number 80054441

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands

SCHEDULE

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13 **DESCRIPTION OF COMPONENT**

8100Px: The 8100Px instrument enclosures and junction boxes are cylindrical, single compartment enclosures comprising a base and cover with a maximum internal volume of 700 cm³. The enclosures are manufactured from cast aluminium with an epoxy paint finish. The enclosures cover may be solid aluminium or contain a circular tempered glass window. Each enclosure may have up to three conduit openings with entry sizes selected from ½" NPT, ¾" NPT or M20x1.5.

8100Px Series Design options	8100PD	Aluminium, epoxy coated	Window cover
	8100PB	Aluminium, epoxy coated	Blind cover

7100 and 8100 Series: The 8100 and 7100 series instrument enclosures and junction boxes are cylindrical single compartment enclosures comprising a base and cover with a maximum internal volume of 950 cm³. The enclosures are manufactured from cast aluminium, with an epoxy paint finish, or stainless steel, the 7100 series are also available in cast aluminium. The enclosure covers may be solid aluminium/ stainless steel or contain a circular tempered glass window. A further option of a high cover with a window is available in stainless steel only. Each 7100 enclosure may have up to four conduit openings and each 8100 enclosure may have up to three conduit openings, with entry sizes selected from ½" NPT, ¾" NPT, 1" NPT, M20 x 1.5 or M25 x 1.5.

7100 Series Design options	7100 ST	Stainless steel	Window cover
	7100 SM	Stainless steel	Window cover
	7100 TT	Stainless steel	Blind cover
	7100 TM	Stainless steel	Blind cover
	7100 WT	Aluminium, epoxy coated	Window cover
	7100 WM	Aluminium, epoxy coated	Window cover
	7100 AT	Aluminium, epoxy coated	Blind cover
	7100 AM	Aluminium, epoxy coated	Blind cover
	7100 CT	Aluminium, cast finished	Window cover
	7100 CM	Aluminium, cast finished	Window cover
	7100 NT	Aluminium, cast finished	Blind cover
	7100 NM	Aluminium, cast finished	Blind cover
8100 Series Design options	8100 ST	Stainless steel	Window cover
	8100 SH	Stainless steel	High window cover
	8100 SM	Stainless steel	Window cover
	8100 TT	Stainless steel	Blind cover
	8100 TM	Stainless steel	Blind cover
	8100 WT	Aluminium, epoxy coated	Window cover
	8100 WM	Aluminium, epoxy coated	Window cover
	8100 AT	Aluminium, epoxy coated	Blind cover
	8100 AM	Aluminium, epoxy coated	Blind cover

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8100Vx: The 8100Vx instrument enclosure has a cylindrical single compartment comprising a base and cover with a maximum internal volume of 950 cm³. The base and cover are manufactured from stainless steel, the cover may be solid or may contain a circular tempered glass window. Each enclosure may have up to six conduit openings, with entry sizes selected from ½" NPT or M20 x 1.5.

8100Vx Series Design options	8100VW	Stainless steel	Window cover
	8100VB	Stainless steel	Blind cover
	8100VL	Stainless steel	Window cover
	8100VT	Stainless steel	Blind cover

8100K Series: The 8100 K series instrument enclosures are made up of two options, the 8100 KK enclosure with blind cover and the 8100 KW enclosure with window cover. The 8100 K series utilise an existing 8100 enclosure base, but with four conduit entries, the thread forms of which may be selected from one of three options: M20 x 1.5p, ½" NPT or ¾" NPT. The lid options are taken from the existing range of 8100 stainless steel range of enclosures. The lid and base threads and basic construction are therefore identical to the existing 8100 range. The material used for the manufacture of the 8100 K series is SS316 stainless steel.

8100K Series Design options	8100KK	Stainless steel	Blind cover
	8100KW	Stainless steel	Window cover

The enclosures meet the requirements of IP 68.

Variation 1 - This variation introduced the following change:

i. The following devices were introduced, the Description of Component being amended accordingly:
- The 8100PB epoxy coated aluminium instrument enclosure with a blind cover.
- The 8100Vx stainless steel instrument enclosures with a blind or window cover

Variation 2 - This variation introduced the following change:

i. Following appropriate assessment, to demonstrate compliance with the requirements of the latest editions of the EN 60079 series of standards, the documents previously listed, EN 60079-0:2006, EN 61241-0:2006, EN 61241-1:2004 and IEC 60079-0:2007, were replaced by those currently listed.

Variation 3 - This variation introduced the following change:

i. The introduction of the 8100VL and 8100VT instrument enclosures to the 8100Vx product range. The new enclosures are manufactured from different grade of stainless steel to that originally certified. The additional enclosures are listed in the table for the 8100Vx Series Design options detailed in the description.

Variation 4 - This variation introduced the following change:

i. The introduction of the 8100 K series instrument enclosures which are made up of two options, the 8100 KK enclosure with blind cover and the 8100 KW enclosure with window cover. The Description of Component being amended accordingly.

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Variation 5 - This variation introduced the following change:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012, EN 60079-1:2007 and EN 60079-31:2009 were replaced by EN 60079-0:2012+A11:2013, EN 60079-1:2014 and EN 60079-31:2014, the markings were updated accordingly to recognise the new standards, and a Schedule of Limitations was added.
ii. Other external thread types (other than metric or NPT) are not permitted as an option for cable glands in field wiring installations in EN 60079-1:2014 Annex C.2.2, therefore a specific condition of use is added to this certificate.

Variation 6 - This variation introduced the following change:

i. Remove all references to BSP thread types in the certificate product description and drawings, in relation to cable entry options, resulting in the removal of two Schedule of Limitations in the certificate.
ii. Replace current external label with an internal label.
iii. Correction of a typographical error in "Assessment Standards" section from EN 60079-0:2012+A1:2013 to EN 60079-0:2012+A11:2013.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	16 July 2009	R51L18316A	The release of the prime certificate.
1	02 September 2009	R51A19908A	The introduction of Variation 1.
2	14 December 2012	R29242A/00	The introduction of Variation 2.
3	01 February 2013	R28772A/00	The introduction of Variation 3.
4	17 March 2014	R32643A/00	The introduction of Variation 4.
5	06 March 2018	R70133545A	This Issue covers the following changes: • EC-Type Examination Certificate in accordance with 94/9/EC updated to EU-Type Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC-Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)* • The introduction of Variation 5.
6	15 October 2019	0564	Transfer of certificate Sira 08ATEX1325U from Sira Certification Service to CSA Group Netherlands B.V..
7	31 March 2021	R80054441A	This Issue covers the following changes: • The introduction of Variation 6. • A standard referenced in the text of Variation 5 i was amended to correct a typographical error.

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem Netherlands

15 SCHEDULE OF LIMITATIONS

15.1 The contents of the 7100 and 8100 Series enclosures may be placed in any arrangement provided that an area of at least 40% of each cross-sectional area remains free to permit unimpeded gas flow and, therefore, unrestricted development of any explosion.

15.2 If the enclosure is epoxy coated, then it may generate an ignition-capable level of electrosatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

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6812 AR, Arnhem Netherlands