



EU-TYPE EXAMINATION CERTIFICATE

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

Certificate Number: **Sira 01ATEX2300** Issue: **4**

Equipment: **TX6383 Flammable Gas Sensor/Transmitter**

Applicant: **Trolex Limited**

Address: Newby Road
Hazel Grove
Stockport SK7 5DY
UK

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

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 equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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.

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:

IEC 60079-0:2011

EN 60079-11:2012

EN 60079-26: 2007

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

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

The marking of the equipment shall include the following:



II 2 G

Ex ia d IIB T4 Gb

Project Number 2329

Signed:

Title: Director of Operations

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Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands



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13 DESCRIPTION OF EQUIPMENT

The TX6383-Series Flammable Gas Sensor/Transmitter takes a signal from a flameproof gas sensing head mounted on the sensor board; this signal is conditioned and an analogue signal is then transmitted to other monitoring equipment.

The TX6383 comprises an output board, which is connected to a sensor board and an optional display board. The assembly is housed in an anti-static plastic enclosure and a polycarbonate window is fitted to allow viewing of the liquid crystal display. The sensor head may be mounted on the main unit or in a remote location connected by up to 10 m of cable.

The TX6383 has the following safety description at terminals 1 to 4:

	T4/T3 (power) and T1/T2 (sensor output signal) (See note 1)
U_i	28 V
I_i	299 mA
P_i	1.41 W
R_{source}	$\geq 139 \Omega$
C_i	12 nF (See note 4)
L_i	0

	T1/T2 (sensor output signal) (See note 2)
U_o	28 V
I_o	171 mA
P_o	1.194 W
C_o	237 nF (See note 3)
L_o	200 μ H (See note 3)

Note 1: The TX6383 may be connected to supplies derived from a single power source or from two separate power sources. Where two separate power sources are used, the combined current and power shall not exceed the stated values and they shall be referenced to the same zero volts.

Note 2: The quoted U_o , I_o and P_o parameters are worst-case values based on a U_i value of 28 V. U_o has the same value as U_i , so, if a U_i value of less than 28 V is used, the same lower value may be used for U_o . $I_{o(peak)}$ and P_o are also reduced. Terminals T4 and T1 are connected via a minimum resistance of 25 Ω . Terminal T4 has a U_o value of zero on account of blocking diodes.

Note 3: For system assessment purposes, it should be noted that terminals T1 and T4 are connected via a minimum resistance of 25 Ω . Thus, calculations of the external capacitance and inductance connected to terminals T1/T2 should take account of capacitance and inductance connected to terminals T4 and T3.

Note 4: In addition to the terminal capacitance at the supply voltage, for system assessment purposes, the installer should note that there is a terminal capacitance of 7.0 μ F at 5.88 V.



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Variation 1 - This variation introduced the following changes:

- i. To permit the use of 'Faradex' stainless steel filled nylon 6 as an alternative anti-static enclosure material.

Variation 2 - This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, the documents previously listed, EN 50014:1997 plus amendments A1 & A2, EN50018:2000 & EN50020:1994, were replaced by those currently listed in section 9, the markings in section 12 were updated accordingly.
- ii. The inclusion of an alternative plastic enclosure material with anti-static properties.
- iii. The marking details are now laser-etched on a stainless steel label that is attached to the front face of the apparatus.
- iv. The deletion of the opto-isolator option approved under BAS Ex 89C2096U.
- v. The use of Littelfuse fuse 259 approved under Baseefa02ATEX0071U coded Ex as a replacement to that approved under BAS Ex 832302U.
- vi. The Combustible Gas Sensing Head options certified under SCS Ex95Y1055U and Ex 951017U have been deleted and replaced by those certified under Sira 01ATEX1205X.
- vii. As a result of the above modifications, the Product Description, Conditions of Certification and Marking were amended.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	15 March 2002	R52A7931A	The release of prime certificate.
1	25 June 2002	R52A9073A	The re-issue of the prime certificate to permit the output PCB circuit and artwork to be modified with consequential changes to the safety description.
2	24 March 2003	R52A9400A	The introduction of Variation 1.
3	30 May 2012	R27565A/00	This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.• The introduction of Variation 2.
4	31st October 2019	2329	<ul style="list-style-type: none">• Transfer of certificate Sira 01ATEX2300 from Sira Certification Service to CSA Group Netherlands B.V..• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates</i>

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			<i>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.)</i>
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15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

None

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.

Certificate Annexe



Certificate Number: Sira 01ATEX2300

Equipment: TX6383 Flammable Gas Sensor/Transmitter

Applicant: Trolex Limited

Issue 0

Drawing No.	Sheets	Rev	Date	Title
P5486.02	1 of 1	D	07 Mar 02	General Arrangement
P5486.101	1 of 1	B	05 Feb 02	Schematic & parts list – sensor head PCBs
P5486.110.1	1 of 1	B	24 Jan 02	Output board – master schematic
P5486.110.2	1 of 1	B	24 Jan 02	Output board – 4-20mA output schematic
P5486.110.5	1 of 1	B	06 Feb 02	Output board – parts list
P5486.111	1 of 1	B	24 Jan 02	Artwork – output PCB
P5486.129	1 of 2	A	05 Feb 02	Marking – Group II
P5487.100	1 of 1	C	06 Mar 02	Schematic & parts list – display PCB
P5487.101	1 of 1	E	06 Mar 02	Artwork – display PCB

Issue 1

Drawing No.	Sheet	Rev.	Date	Title
P5486.02	1 of 1	E	20 Jun 02	General Arrangement
P5486.101	1 of 1	C	30 Apr 02	Schematic & parts list – sensor head PCBs
P5486.110.1	1 of 1	C	10 Apr 02	Output board – master schematic
P5486.110.2	1 of 1	C	10 Apr 02	Output board – 4-20mA output schematic
P5486.110.5	1 of 1	C	24 Jun 02	Output board – parts list
P5486.111	1 of 1	C	24 Apr 02	Artwork – output PCB
P5486.129	1 of 2	A	05 Feb 02	Marking – Group II
P5487.100	1 of 1	C	06 Mar 02	Schematic & parts list – display PCB
P5487.101	1 of 1	E	06 Mar 02	Artwork – display PCB

Issue 2

Drawing No.	Sheet	Rev.	Date	Title
P5486.02	1 of 1	F	04 Feb 03	General arrangement

Issue 3

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
P5486.02	1 of 1	H	23 May 12	General Assembly
P5486.110.5	1 of 1	D	23 May 12	Certified Parts List
P5486.101	1 of 1	D	25 May 12	Sensor Head PCB Circuit and Parts List
P5486.129	1 of 2	B	23 May 12	Certification Labels

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