



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 08ATEX2097U** Issue: **1**

4 Component: **TX6350 eModule - Toxic Gas Sensor (Group I)**

5 Applicant: **Trolex Limited**

6 Address: **Hazel Grove
Stockport
Cheshire SK7 5DY
UK**

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 60079-0:2009

EN 60079-11:2007

EN 50303: 2000

Note: Compliance with EN 60079-0:2009 takes into account the dated reference to EN 60079-0:2006 in EN 60079-11:2007.

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 special conditions for safe use are listed in the schedule to this certificate.

11 This EC 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:



I M1

Ex ia I Ma (-20°C ≤ T_a ≤ +40°C)

Project Number 23465

C. Index 14

C Ellaby
Certification Officer

This certificate and its schedules may only be reproduced in its entirety and without change.

Sira Certification Service

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 08ATEX2097U
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13 DESCRIPTION OF COMPONENT

The TX6350 Toxic Gas Sensor is designed to measure toxic gas concentration by means of an electrochemical cell and to electronically convert the measured value into an output signal that can be monitored by suitably certified gas monitoring equipment into which the sensor is plugged.

The TX6350 Toxic Gas Sensor contains a sub-assembly comprising a CPU Board, Connector Board and either a Toxic Baseboard or an Oxygen Baseboard. The sub-assembly fits inside a plastic enclosure with one face of the Connector Board exposed to connect to external circuit.

Input Parameters		
At Connector CON 1		
Pin 1 wrt 2	Pin 3 & 4 combined wrt 2	Pins 5 wrt 2 and 6 wrt 2
Ui = 14.4 V	Ui = 6.51 V	Ui = 6.51 V
	Ii = 1.52 A	Ii = 27 mA
	Pi = 1.38 W	Pi = 40 mW

Output Parameters
At Connector CON 1
Uo = 1.26 V (generated by the electrochemical cell)
Ci = 3.887 μ F
Li = 0

Variation 1 - This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, EN 60079-0:2006 was replaced by EN 60079-0:2009, the markings in section 12 were updated accordingly.
- ii. The Connection PCB was updated to the latest version that has increased pad spacing.
- iii. The PCB thickness requirement was removed from the PCB drawings.
- iv. The Special Condition of Safe Use which states that 'Input to Pins 3 & 4 on CON1 must be protected by a suitable external 125 mA fuse' was removed.
- v. At the request of the Applicant, the name of the component, formerly TX6350 Toxic Gas Sensor, was expanded to become TX6350 eModule - Toxic Gas Sensor (Group I).

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	29 September 2008	R59A17263B	The release of the prime certificate.
1	21 December 2010	R23465A/00	The introduction of Variation 1.

15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The Toxic Sensor has exposed external connections, which must be provided with an ingress protection of at least IP54.

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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.

17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Certificate Annexe

Certificate Number: Sira 08ATEX2097U
Component: TX6350 eModule - Toxic Gas Sensor (Group 1)
Applicant: Trolex Limited



Issue 0

Drawing	Sheets	Rev.	Date:	Title:
P5553.24	1 of 1	B	21 Aug 08	General Assembly
P5553.37	1 of 1	A	02 Sep 08	Label
P5553.22	1 of 1	A1	13 Aug 08	Electrochemical Gas Sensor Block Diagram
P5553.03	1 to 2	A2	30 May 08	Circuit Diagram Sensing Module Toxic Baseboard
P5553.05	1 to 2	A2	30 May 08	Circuit Diagram Sensing Module Oxygen Baseboard
P5553.01	1 to 2	A2	24 Apr 07	Circuit Diagram CPU Board
P5553.04	1 of 1	A	02 Apr 08	PCB Toxic Baseboard
P5553.06	1 of 1	A	03 Apr 08	PCB Oxygen Baseboard
P5553.02	1 of 1	A	03 Apr 08	PCB Sensing Module CPU
P5553.21	1 of 1	A	03 Apr 08	PCB Connector Board

Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
P5553.24	1 of 1	C	09 Dec 10	General Assembly
P5553.37	1 of 1	B	09 Dec 10	Label
P5553.04	1 of 1	B	09 Dec 10	PCB Toxic Baseboard
P5553.06	1 of 1	B	09 Dec 10	PCB Oxygen Baseboard
P5553.02	1 of 1	B	09 Dec 10	PCB Sensing Module CPU
P5553.21	1 of 1	B	09 Dec 10	PCB Connector Board

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