



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 10ATEX2356U** Issue: **0**

4 Component: **TX6350 – Infrared Gas Sensing eModule (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 60079-0:2006 EN 60079-11:2007 EN 50303:2000
EN 60079-0:2009 (used for guidance in respect of marking)

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

D R Stubbings BA MIET
Certification Manager

Project Number 23735

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SCHEDULE

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13 DESCRIPTION OF COMPONENT

The TX6350 - Infrared Gas Sensing eModule is an Ex component designed to measure gas concentration by means of a Dynament Type MSHia *** or Type MSHia-P*** Gas Sensor (separately certified component to the code Ex d+ia I Ma). The microcontroller inside the module communicates digitally with the Gas Sensor to obtain the current gas reading. This reading is provided as an output signal which is monitored by suitably certified equipment into which the module is plugged.

The Infrared Gas Sensing eModule contains a sub-assembly comprising a CPU board (alternatively CPU OSC Board), baseboard and a connector board. The CPU board makes use of a pressure sensor which is used to monitor normal atmospheric pressure. The sub-assembly fits inside a plastic enclosure with one face of the connector board exposed to connect with an 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 Ii = 1.52 A Pi = 1.38 W	Ui = 6.51 V Ii = 27 mA Pi = 40 mW

Output Parameters at Connector CON 1 Pins 3 to 6
Uo = 0 Ci = 2.4 µF Li = 0

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	07 March 2011	R23735A/00	The release of the prime certificate.

15 SPECIAL CONDITIONS FOR SAFE USE

15.1 The Type TX6350 Infrared Gas Sensing eModule has exposed external connections that shall be provided with an ingress protection of at least IP54.

15.2 The Type TX6350 Infrared Gas Sensing eModule shall be effectively protected from impact.

15.3 Input to Pins 3 & 4 on CON 1 shall be protected by a suitable external 125mA fuse.

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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Sira Certification Service

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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.
- 17.3 The TX6350 Infrared Gas Sensing eModule incorporates a previously certified component under Sira 04ATEX1357U and IECEx SIR 05.0053U, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

Certificate No.	Component	Manufacturer	Marking	Ambient temperature
Sira 04ATEX1357U	Type MSHia*** and Type MSHia-P*** Gas Sensor	Dynament Ltd	Ex d+ia I Ma	-20°C to +40°C

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Certificate Annexe

Certificate Number: Sira 10ATEX2356U
Component: TX6350 – Infrared Gas Sensing eModule
(Group I)
Applicant: Trolex Limited



Issue 0

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
P5553.113	1 of 1	A	08 Feb 11	General Assembly
P5553.114	1 of 1	A	08 Feb 11	Label details-Group I
P5553.116	1 of 1	A	08 Feb 11	Block Diagram
P5553.11	1 & 2	A	08 Feb 11	Schematic – Infrared CPU Board
P5553.12	1 of 1	A	08 Feb 11	PCB Infrared CPU Board
P5553.118	1 & 2	A	08 Feb 11	Schematic – Infrared CPU OSC Board (alternative)
P5553.119	1 of 1	A	08 Feb 11	PCB – Infrared CPU OSC (alternative)
P5553.13	1 & 2	A	08 Feb 11	Schematic Infrared Baseboard
P5553.14	1 of 1	A	08 Feb 11	PCB – Infrared Baseboard
P5553.21	1 of 1	B	08 Feb 11	PCB - Connector Board

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