



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 10ATEX2046U** Issue: **0**

4 Component: **TX6350 eModule - Flammable 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 60079-0:2006 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
(Ta = -20°C to +40°C)

Project Number 21522
C. Index 14

C. Ellaby
Certification Officer

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 10ATEX2046U
Issue 0

13 DESCRIPTION OF COMPONENT

The TX6350 eModule - Flammable Gas Sensor is an Ex Component designed to measure concentration of flammable gas by means of a pellistor type sensing head and to electronically convert the measured value into an output signal that can be monitored by suitably certified monitoring equipment, into which the sensor is plugged. The Flammable Gas Sensor contains a sub-assembly comprising a Sensing Board, Baseboard and a Connector Board. 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 | | | Output Parameters at Connector CON 1 Pins 3 to 6 |
|-------------------------------------|---|---|--|
| Pin 1 wrt 2 | Pin 3 & 4 combined wrt 2 | Pins 5 wrt 2 and 6 wrt 2 | |
| U _i = 14.4 V | U _i = 6.51 V I _i = 1.52 A P _i = 1.38 W | U _i = 6.51 V I _i = 27 mA P _i = 40 mW | U _o = 0 C _i = 8.64 µF L _i = 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 | 29 July 2010 | R21522B/00 | The release of prime certificate. |

15 SPECIAL CONDITIONS FOR SAFE USE

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

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.

17.3 The Flammable Sensor covered by this certificate incorporate a previously certified component, 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. | Manufacturer | Marking | Ambient temperature |
|------------------|--------------|----------|-----------------------------------|
| Sira 02ATEX2059U | Trolex Ltd | EEx ia I | (T _a = -20°C to +40°C) |

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Sira Certification Service

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Certificate Annexe

Certificate Number: Sira 10ATEX2046U
Component: TX6350 eModule - Flammable Group I Gas Sensor
Applicant: Trolex Limited



Issue 0

| Drawing | Sheets | Rev. | Date (Sira stamp) | Title |
|----------|--------|------|-------------------|--|
| P5553.95 | 1 of 1 | B | 24 Jun 10 | General Assembly |
| P5553.90 | 1 of 1 | A | 18 Jun 10 | Group I – Label details |
| P5553.64 | 1 of 1 | A | 18 Jun 10 | Flammable Gas Sensor Block Diagram |
| P5553.40 | 1 to 2 | C | 18 Jun 10 | Schematic - 4 Series Flammable Baseboard |
| P5553.01 | 1 to 2 | A2 | 18 Jun 10 | Schematic - CPU Board |
| P5553.41 | 1 of 1 | C | 18 Jun 10 | PCB – 4 Series Flammable Baseboard |
| P5553.02 | 1 of 1 | B | 24 Jun 10 | PCB - Sensing Module CPU |
| P5553.21 | 1 of 1 | B | 18 Jun 10 | PCB - Connector Board |
| P5476-12 | 1 of 1 | A | 18 Jun 10 | Pellistor construction |

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