



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 07ATEX1250** Issue: **8**

4 Equipment: **40/40 Series Flame Detectors**

5 Applicant: **Spectrex Limited**

6 Address: **218 Little Falls Road  
Cedar Grove  
NJ 07009  
USA**

7 This equipment and any acceptable variation thereto is 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 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.

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 61241-0:2006  
EN 60079-1:2007 EN 61241-1:2004  
EN 60079-7:2007

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC 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.

12 The marking of the equipment shall include the following:



II 2 G D  
Ex de IIC T5 Ta -55°C to +75°C  
Ex tD A21 IP66/X7 T95°C  
or  
Ex de IIC T4 Ta -55°C to +85°C  
Ex tD A21 IP66/X7 T105°C

Project Number 26065

C Ellaby  
Deputy Certification Manager

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## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

The 40/40 Series Flame Detectors are manufactured from stainless steel. They are cylindrical in shape and are of three-part construction. They comprise a central assembly that is divided into two compartments, an electronics compartment and a terminal compartment, each with their own cover. The electronics compartment cover contains a circular glass window that allows the equipment to provide its monitoring function, The cover is secured by three ¼"-20 UNC-2A socket head cap screws. The cover window aperture has two moulded lugs that, along with a flat bar which is secured by cement and a No. 4-40 UNC-2A screw, provide protection of the window against impact. The terminal compartment, which contains Bartec Ex e component approved terminals and which communicates with the electronics compartment via a potted bushing, has its cover secured by three ¼"-20 UNC-2A socket head cap screws. The central assembly has either two M25 x 1.5 or ¾" x 14 NPT threaded holes in its sidewall to allow the fitting of suitably certified cable entry devices.

The 40/40 Series Flame Detectors comprise the following models:

40/40I-XXXXC	-	IR3 Flame Detector
40/40M-XXXXC	-	Combined Hydrocarbon & Hydrogen Flame Detector
40/40R-XXXXC	-	Single IR Detector
40/40L-XXXXC	-	UV/IR Flame Detector without BIT
40/40L4-XXXXC	-	UVIR (4.5 µm) Flame Detector without BIT
40/40U-XXXXC	-	UV Flame Detector without BIT
40/40UB-XXXXC	-	UV Flame Detector with BIT
40/40LB-XXXXC	-	UV/IR Flame Detector with BIT
40/40L4B-XXXXC	-	UV/IR (4.5 µm) Flame Detector with BIT

**Variation 1** - This variation introduced the following changes:

- The introduction of minor machining dimension changes and the reformatting of drawing details.
- The introduction of a spacing disc on the bushing.
- The optional use of aluminium as a material of manufacture of the enclosure.

**Variation 2** - This variation introduced the following changes:

- A change of the aluminium specification.
- Minor machining and dimensional changes.

**Variation 3** - This variation introduced the following change:

- The recognition of minor drawing modifications; these changes are administrative and do not affect the aspects of the product that are relevant to explosion safety.

**Variation 4** - This variation introduced the following change:

- Minor dimensional changes to the terminal compartment were endorsed.
- The recognition of minor drawing modifications; these changes are administrative and do not affect the aspects of the product that are relevant to explosion safety.



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**Variation 5** - This variation introduced the following changes:

- i. The recognition of minor enclosure dimension changes was approved.
- ii. Changes to certificate schedule drawings text were endorsed.
- iii. The cover securing screws were permitted to be changed from 304 Stainless Steel to 316 Stainless Steel.

**Variation 6** - This variation introduced the following change:

- i. The gas group was changed from IIB + H<sub>2</sub> to IIC.

**14 DESCRIPTIVE DOCUMENTS**

**14.1 Drawings**

Refer to Certificate Annexe.

**14.2 Associated Sira Reports and Certificate History**

Issue	Date	Report no.	Comment
0	4 January 2008	R51A14361A	The release of the prime certificate.
1	2 April 2008	R51A14361B	Report number R51A14361B replaced R51A14361A.
2	11 June 2008	R51L17905A	The introduction of Variation 1.
3	7 January 2009	R51L19187A	The introduction of Variation 2.
4	13 July 2009	R51A20371B	The introduction of Variation 3.
5	13 April 2010	R21421B/00	The introduction of Variation 4.
6	09 June 2010	N/A	Issued to correct a typographical error
7	19 April 2011	R24659B/00	The introduction of Variation 5.
8	31 January 2012	R26065E/00	The introduction of Variation 6.

14.3 Certificate number Sira 07ATEX1249 issue 5

**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.



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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 Each 40/40 Series Flame Detector shall be subject to a routine pressure test of 19.0 bar for at least 10 s as required by clause of 16.1 EN 60079-1:2007. There shall be no permanent deformation or damage to the enclosure.
- 17.4 Each 40/40 Series Flame Detector shall be subject to a routine dielectric strength test of 500 V rms applied between the terminal block and the enclosure for a period of 60 s as required by clause 6.1 of EN 60079-7:2007. Alternatively, the test voltage may be 600 V for a period of 100 ms

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# Certificate Annexe

Certificate Number: Sira 07ATEX1250  
Equipment: 40/40 Series Flame Detectors  
Applicant: Spectrex Limited



## Issue 0

Drawing No.	Sheet	Rev.	Date (Sira stamp)	Description
777117	1 of 1	C	07 Nov 07	Label
777127	1 of 1	-	07 Nov 07	Label

Issue 1 (No new drawings were introduced)

## Issue 2

Drawing No.	Sheet	Rev.	Date (Sira Stamp)	Description
777327	1 of 1	-	06 Mar 08	Label
777337	1 of 1	-	06 Mar 08	Label

Issue 3 (No new drawings were introduced)

## Issue 4

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
777117	1 of 1	D	12 Jun 09	Label
777127	1 of 1	B	12 Jun 09	Label

Issue 5, 6 and 7 (No new drawings were introduced)

## Issue 8

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
777117	1 of 1	E	31 Jan 12	Label
777127	1 of 1	C	31 Jan 12	Label

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