



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 03ATEX1407X

4 Equipment: SharpEye Series 20/20X Flame Detectors

5 Applicant: Spectrex Inc.

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 confidential report number R51A10736A.

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 50014:1997 (Amendments A1 & A2)
EN 50018:2000
EN 50019:2000
EN 50020:2002
EN 50284:1998
EN 50281-1-1:1998

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(1) GD
EEx d e [ia] IIC T5 Ta -40°C to +70°C

Project Number 51A10736
Date 3 November 2003
C. Index 14

C Ellaby
Certification Officer

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Sira Certification Service

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SCHEDULE

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Sira 03ATEX1407X

13 DESCRIPTION OF EQUIPMENT

The SharpEye Series 20/20X Flame Detectors include the following models:

- Single Infrared Model - 20/20XR-C-XX
- Triple Infrared Model - 20/20XI-C-XX
- Fast Triple Infrared (IR³) – 20/20XF-C-XX

They comprise an enclosure manufactured from 316 stainless steel that provides an ingress protection rating of IP66/X7. This enclosure has two-part construction and is basically cylindrical in shape. It consists of a flameproof main housing on top of an increased safety terminal enclosure; these are secured together by four ¼" 20-UNC-2Ax1 socket head cap screws. The interface between the main housing and the terminal enclosure is provided by a certified Type 07-9102-E152 flameproof line bushing manufactured by Bartec GmbH.

The main housing incorporates:

- the sensors and the various associated electronics that differentiate between the model variants
- a sapphire window cemented into place and protected by a permanently fixed guard
- intrinsically safe circuitry providing data to a hand-held P.C.

The increased safety terminal compartment has up to two M25 x 1.5 or ¾" – 14 NPT cable entry ports on the side wall and its cover is secured by four, captive, M4, socket head screws. The compartment contains:

- component certified Type 07-9702-0320/1 increased safety terminals manufactured by Bartec GmbH for connection to external circuits
- a plug, with the following output parameters, to enable the Series 20/20X Flame Detectors to link up to a hand-held P.C.

Output parameters:	Uo	=	6.51 V
	Io	=	258 mA, transient
	Io	=	170 mA, continuous
	Po	=	0.42 W
	Ci	=	0
	Li	=	0
	Co	=	22 µF
	Lo	=	534 µH

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Title
	789531	1 of 1	C	03 Nov 03	Label
	789500	1 of 1	-	03 Nov 03	Flame Detector Cross Reference List
14.2	Report No. R51A10736A				

Date 3 November 2003

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- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 The Series SharpEye 20/20X Flame Detectors shall not be used as Safety Related Devices in accordance with Directive 94/9/EC.

- 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 Report No. R51A10736A.

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 This certificate relies on the following previously certified products. When used as part of the Series 20/20X SharpEye Flame Detectors, the key attributes listed in the table below shall still be maintained by their original certificate.

Description	Certificate No.	Key attributes
Bartec line bushing P No. 07-9102-E152	Either PTB 96ATEX1078X Or PTB 97ATEX1047U	EEx d IIC
Bartec terminals P No. 07-0902-0320/1	PRB 99ATEX3117U	EEx e II

- 17.4 All products shall be marked with name SharpEye.

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