



EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER Sira 04ATEX2010 Dated 15 September 2005

VARIATION NUMBER 1 (ONE) Dated 15 September 2005

VARIATION TO EQUIPMENT

To permit:

- 1 The input parameters to be increased to enable connection to suitable I.S. Barriers; the circuit parameters, including those for the 4-20mA and the RS485, are as follows:

Pin	Ref	U _i	I _i	P _i	C _i	L _i
1	Vin	30 V	200mA	1.0W	0	0
2	GND					
3	4-20 mA IN	30 V	200mA	0.5W	0	0
4	4-20 mA OUT					
6	RS485A+	±12V	80mA	1.0W	0	0
7	RS485B-					
8	Fault relay	30 V	*	*	0	0
9	Fault relay rtn					
10	Alarm relay	30 V	*	*	0	0
11	Alarm relay rtn					
13	Shield	0	0	0	0	0
14	EXT_BIT_SW	0	0	0	0	0

* These are dry contacts of a relay to be connected to an intrinsically safe supply.

DESCRIPTIVE DOCUMENTS

Drawing No.	Sheet	Rev.	Date	Title
787831	1 of 1	A	15 Sep 05	Label

(Sira stamp)

ADDITIONAL CONDITIONS OF CERTIFICATION

None

File No. 52A11392

Report No. R52A11392A

C Ellaby
Certification Officer



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1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 04ATEX2010

4 Equipment: SharpEye Type 20/20MI Flame Detector

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 R52V11392A.

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 plus Amendments 1 and 2
EN 50020:2002
EN 50284:1999
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 1 GD
T123°C IP67
EEx ia IIC T4 (T_a = -40°C to +85°C)
EEx ia IIC T5 (T_a = -40°C to +60°C)

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 04ATEX2010

13 DESCRIPTION OF EQUIPMENT

The SharpEye Type 20/20MI Flame Detector is designed to detect the presence of a flame. It comprises two printed circuit boards (PCBs) with three infra red (IR) sensors, all encapsulated as a module and housed in a stainless steel enclosure with a window to permit the IR sensors to see. External electrical connections are made to a multiway output connector mounted in the enclosure wall and the connections are as follows:

Pin	Ref	U _i	I _i	P _i	C _i	L _i
1	Vin	30 V	40 mA	0.64 W	0	0
2	GND					
3	4-20 mA IN	30 V	32 mA	30 mW	0	0
4	4-20 mA OUT					
6	RS485A+	±5 V	100 mA	70 mW	0	0
7	RS485B-					
8	Fault relay	30 V	*	*	0	0
9	Fault relay rtn					
10	Alarm relay	30 V	*	*	0	0
11	Alarm relay rtn					
13	Shield	0	0	0	0	0
14	EXT_BIT_SW	0	0	0	0	0

* These are dry contacts of a relay to be connected to an intrinsically safe supply.

The temperature marking of equipment, T123°C, is linearly corrected to the maximum ambient in service, 85°C.

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Title
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(Sira stamp)

14.2 Report No. R52V11392A

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 Report No. R52V11392A.

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 product shall be uniquely marked with the label identified in section 14.1 of this certificate.

Date 15 September 2005

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER Sira 04ATEX2010 **Dated** 15 September 2005

VARIATION NUMBER 2 (TWO) **Dated** 15 September 2005

VARIATION TO EQUIPMENT

To permit:

- 1 The electrical parameters of the 4-20mA output to be changed as follows; the parameters of the other pins remain unchanged:

Pin	Ref	Ui	Ii	Pi	Ci	Li
3	4-20mA IN	30 V	162mA	1.0W	0	0
4	4-20mA OUT					

- 2 The option to reduce the number of infra red (IR) sensors in the detector to one thus forming a Single IR detector model no. 20/20MR-XX-X-C.
- 3 The introduction of changes that affect non-safety critical components.
- 4 The introduction of minor drawing detail changes.
- 5 The recognition of a new model reference type 20/20MR-XX-X-C.

DESCRIPTIVE DOCUMENTS

Drawing No.	Sheet	Rev.	Date	Title
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ADDITIONAL CONDITIONS OF CERTIFICATION

None

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Report No. R52A11392A

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EC TYPE-EXAMINATION CERTIFICATE VARIATION

CERTIFICATE NUMBER Sira 04ATEX2010 Dated 15 September 2005

VARIATION NUMBER 3 (THREE) Dated 24 August 2006

VARIATION TO EQUIPMENT

To permit:

- 1 The introduction of a new model that utilises a new type of infra-red sensor; when fitted with this new sensor, the equipment is re-designated as a model 20/20MH-XX-S-C.
- 2 The addition of a 1 mm deep groove around the threaded hole in the housing used to fit the cable gland/external connector.

DESCRIPTIVE DOCUMENTS

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ADDITIONAL CONDITIONS OF CERTIFICATION

- 17.4 The version of the SharpEye Type 20/20MI Flame Detector that is covered by this variation shall be fitted with a certification label that bears all the relevant information detailed on drawing number 787841, issue F, dated 23 Nov 04, only the model number shall be changed to 20/20MH-XX-S-C.
- 17.5 The P.C. Board Assembly Part No. 787111-2 that is listed on drawing number 787111, dated 10 May 05 shall not be used as part of any 20/20MI Flame Detector products that are covered by this certification.

File No. 51A13638

Report No. R51A13638A

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