



1. EC-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. EC-Type Examination Certificate Number: **ITS11ATEX17231X**

4. Equipment or Protective System: **RAEGuard 2**

5. Manufacturer: **RAE SYSTEMS INC.**

6. Address: **3775 North First Street, San Jose, CA 95134, USA**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Intertek Report 10049512A1 dated 07 February 2011.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2009, EN 60079-1:2007 & EN60079-11:2007 except in respect of those requirements referred to at item 18 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

II 2(1) G Ex d [ia Ga] IIC T4 Gb T_{amb}: -20°C to +55°C

P Moss
Certification Officer
15th February 2011

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13. SCHEDULE

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS11ATEX17231X

15. Description of Equipment or Protective System

The RAEGuard 2 is a permanently mounted (fixed) monitor (connected with different sensor) operated from a 24VDC power source, accepting the range: 10 to 28 VDC, Um: 28VDC.

RAEGuard 2 provides an analogue (4-20 mA) signal output and a communication port which allows galvanic isolated data transfer between the instrument and a controller.

The RAEGuard 2 is equipped with a local graphic display to show gas concentration, three function keys to perform calibration, and a visual alarm indicator which comprises a Red/Green LED, the blinking LED can be seen through the front glass when in alarm mode.

The RAEGuard 2 provides one or two Safety Barriers (ITS10ATEX16917U) fitted to a flameproof enclosure (IECEx CSA 08.0010U) to connect to external units like an Intrinsic Safety component or instrument. The Safety Barrier is provided with entity parameters to ensure that the connected component can be adequately matched. The safety barrier is provided in two versions, one which includes a double gas sampling tubes with flame arrestors, Type ISA-100, and one without flame arrestors, Type ISA101.

The physical dimensions of the enclosure body are 128mm x 110mm x 155mm.

Connection to a flameproof enclosure is made via a 3/4" NPT thread. The internal circuits of the Safety Adaptor are constructed according to intrinsic safety i.a IIC and are completely encapsulated.

The following IS parameters are valid for component approved Safety Adapter.

Input: Um: 28 VDC
Output: Uo: 5.91 V
Co: 30 µF
Lo: 55 µH
Io: 0.8 A
Po: 1.16 W

The above given entity parameters are to be considered as the sum of all power outputs.

16. Report Number:

Intertek Report 10049512A1 dated 07 February 2011.

17. CONDITIONS OF CERTIFICATION:

(a). Special Conditions for safe use

- The cable selection shall allow for temperatures greater than 80°C.
- Type ISA-100 Breathing device not to be used in carbon disulphide atmospheres.
- Refer to the manual for earthing and thread size arrangements.

(b). Conditions For Use (Routine Tests)

No routine testing required

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18. Essential Health and Safety Requirements (EHSR's)

The relevant EHSR's have been identified and assessed in Intertek Report 10049512A2 dated 07 February 2011.

19. Drawings and Documents

Number	Title	Issue	Date
D03-4003-LBL	RAEGuard 2 ATEX & IEC Ex Nameplate	7	2/11/2011
D03-0901-ASY	RAEGuard 2 Unit Assy	2	5/20/2010
003-PLAT-000	Nameplate Mounting	2	2009-01-08

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