

# 1 EC-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 94/9/EC**

3 **EC-Type Examination Certificate No:** FM09ATEX0071X

4 **Equipment or protective system:** Model 5100-05-IT Hydrogen Sulfide Gas Sensor Module  
(Type Reference and Name)

5 **Name of Applicant:** Sierra Monitor Corporation

6 **Address of Applicant:** 1991 Tarob Court  
Milipitas, CA 95035  
USA

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

8 FM Approvals Ltd, notified body number 1725 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:

3033266EC dated 7 February 2011

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0: 2009 and EN60079-1: 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, examination and tests 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:



II 2 G Ex d IIB+H2 T6 Gb Ta = -20°C to +50°C

**Andrew Was**  
**Certification Manager, FM Approvals Ltd.**

Issue date: 23<sup>rd</sup> February 2011

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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# SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM09ATEX0071X

## 13 Description of Equipment or Protective System:

**General** - The Model 5100-05-IT Hydrogen Sulfide Gas Sensor Module is a self-contained gas detection assembly which can function as a standalone gas detector using an integral sensor. The device operates on 24 Vdc nominal (10-30 Vdc range) with a 4-20 mA output measurement signal. The ambient operating temperature of the device is -20°C to +50°C.

**Construction** - The Model 5100-05-IT Hydrogen Sulfide Gas Sensor Module consists of an aluminum or stainless steel electronics enclosure assembly which contains the display, interface and communications electronics connected to an aluminum or stainless steel gas sensing sub-assembly (A21830 or A27074) which contains an electrochemical hydrogen sulfide gas sensing cell, sensor electronics and the sensor transmitter board. The aluminum (A21830) or stainless steel (A27074) sensor enclosure assembly contains a male-threaded NPT nipple and a sintered flame arresting element press fit into place. The sensor assembly contains a threaded joint between the top and bottom portions and a cemented joint in the neck of the threaded male NPT connection. The sensor housing has an approximate free internal volume of 10 cm<sup>3</sup>. The aluminum or stainless steel electronics enclosure is manufactured by International Metal Engineering, Model 8092WM-07 (aluminum) or Model 8092SM-07 (stainless steel) which are ATEX certified under certificate number SIRA08ATEX1082U for use in Gases (II 2 G) Ex d IIC Ta = -40°C to +85°C, IP66.

### **5100-a-IT-b-c. Hydrogen Sulfide Gas Sensor Module.**

a = Gas Type: 05.

b = Enclosure: Al or SS.

c = I/O: 01 or 02.

## 14 Special Conditions for Safe Use:

Contact the original manufacturer for information on the dimensions of the flameproof joints.

## 15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

## 17 Approved Drawings

Details of the approved drawings and documents are identified in the confidential report identified in item 8.

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