

Certificate No:

MED-B-9253

Item No:

A.1/3.54

Job Id:

344.1-004339-1

EC TYPE EXAMINATION CERTIFICATE

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive 2012/32/EU, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL under the authority of the Government of the Kingdom of Norway.

This is to certify:

That the Fixed oxygen analysis and gas detection equipment

with type designation(s) **S4000CH Combustible Gas Detector**

Issued to

General Monitors IncLake Forest CA, United States

is found to comply with the requirements in the following Regulations/Standards:

Annex A.1, item No. A.1/3.54 and Annex B, Module B in the Directive. SOLAS 74 as amended,

Regulation II-2/4 & VI/3 and FSS Code 15

Further details of the equipment and conditions for certification are given overleaf.

Høvik, 2014-09-02 for DNV GL AS



This Certificate is valid until **2019-09-02**

Notified Body No.: **0575**

Marianne Strand Valderhaug Head of Department DNV GL local office: Long Beach Andrzej Gdaniec Surveyor



The Certificate is subject to terms and conditions overleaf. Any significant changes in design or construction of the product, or amendments to the Directive or Standards referenced above may render this Certificate invalid. The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended. The Mark of Conformity may only be affixed to the product and a Declaration of Conformity may only be issued when the production/product assessment module referred to in the council directive, is fully complied with.

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Product description

The Model S4000CH Intelligent Sensor is a microprocessor-based transmitter designed for use with General Monitors catalytic bead sensors to monitor combustible gases and vapors within the lower explosive limit (LEL) and provide status indication and alarm outputs.

The detector uses a 4-20 mA analog output signal that is proportional to 0 to 100% LEL gas concentration at the sensor. In addition, the Model S4000CH includes warning, alarm, and fault relay contacts that can be used to indicate an alarm or fault condition and dual redundant Modbus or HART communication.

Application/Limitation

<u>Ex installations</u> to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Ex-certification is not covered by this certificate and the following paragraph, which is for information only, is based on information received from the manufacturer, but not verified by DNV.

Information on Ex-Certification received from manufacturer – Not verified by DNV					
Equipment	Certified	Certificate No.			
S4000CH	Ex d IIB+ H_2 T5 Gb (Ta -40°C to +70°C)	IECEx SIR 12.0066X Issue No.0			

The equipment are found to comply with the following location/application dependent requirements (for definition of each of the location classes, see below the table):

Model	Temp.	Vibration	EMC	Enclosure	Humidity
S4000CH	D	Α	В	IP65	В

Definition of the location classes with reference to relevant standards:

Temperature D

Location (-25°C to +70°C) (ref. IEC 60092-504 (2001) table 1 item 6-7)

Note: performance test carried out at -40°C

Vibration A

(ref. IEC 60092-504 (2001) table 1 item 10)

EMC B

Bridge and open deck zone (ref. IEC 60092-504 (2001) table 1 item 19-20)

Humidity B

(ref. IEC 60092-504 (2001) table 1 item 8)

Type Examination documentation

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Tests carried out

The relevant tests have been carried out according to the following standards:

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- IEC 60092-504 (2001)
- IEC 60533 (1999)
- IEC 60945 (2002)
- EN 61779-1, EN 61779-4, EN 60079-29-1: 2007

Marking of product

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (see below)

Mark of Conformity

The manufacturer is allowed to affix the Mark of Conformity according to Article 11 in the Council Directive 96/98/EC on Marine Equipment and shall issue a Declaration of Conformity, only when the module D or E or F of Annex B in the same directive is fully complied with.

Module D: The quality system for production and testing shall be approved by the Notified Body.

Module E: The quality system for inspection and testing shall be approved by the Notified Body.

Module F: Compliance of the products to type as described in this EC Type-Examination Certificate

must be verified by the Notified Body who also shall issue a Certificate of Conformity.

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