

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Fixed oxygen analysis and gas detection equipment

with type designation(s)

IR 400 & IR 4000S Combustible Gas Detector

Issued to

General Monitors Inc
Lake Forest CA, United States

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

Regulation **(EU) 2017/306,**

item No. MED/3.54. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15

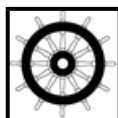
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2019-12-03.**

Issued at **Høvik** on **2017-10-27**

DNV GL local station:
Long Beach

Approval Engineer:
Nils Jarem



Notified Body
No.: **0575**

for **DNV GL AS**

Vidar Dolonen
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

The Model IR400 infrared (IR) point detector is a microprocessor-based combustible gas detector that continuously monitors combustible gases in the lower explosive limit (LEL) range and provides a 4 to 20 mA analog signal proportional to the 0 to 100% LEL concentration. The detector also monitors other conditions such as supply voltage and optical path integrity.

The Model IR4000S is a Single-Point Monitor with LED display and user interface to the Model IR400 point IR gas detector. The monitor allows local calibration and displays gas concentration and is housed in an explosion-proof junction box enclosure that can be installed in hazardous locations adjacent to the detectors.

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

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):

IR400 & IR4000S	Temp. D	Vibration A	EMC B	Enclosure IP 66	Humidity B
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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

Place of manufacture

Galway, Ireland

Tests carried out

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

- IEC 60092-504:2001 incl. IEC 60092-504 Corr.1:2011
- IEC 60533:1999
- 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 Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.



Job Id: **344.1-004542-2**
Certificate No: **MEDB000035G**

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 of Certificate Conformity.