

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)
S5000 Gas Monitor

Issued to

General Monitors Inc
Lake Forest, CA, USA

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773**,
item No. MED/3.54. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15

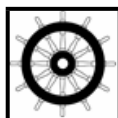
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2020-06-03**.

Issued at **Høvik** on **2018-08-16**

DNV GL local station:
Long Beach

Approval Engineer:
Nils Jarem



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

S5000 Gas Monitor for detection of combustible gases.

S5000 Gas Monitor consisting of S5000 transmitter, S5000 Junction Box, IR400 gas sensor and Digital Sensor.

Passive gas sensors with part numbers 11159-1, 11159-2, 11159-8, 11159-1L, 11159-2L and 11159-8L can also be connected.

The S5000 Gas Monitor supports two Digital Sensors installed either integral to the S5000 transmitter or remotely using the S5000 Junction Box, one IR400 point IR detector and one Digital Sensor installed either integral to the S5000 transmitter or remotely using the S5000 Junction Box, or one passive sensor, combustible catalytic type either integral to the S5000 transmitter or remotely using the S5000 Junction Box.

The S5000 Gas Monitor generates two independent analog outputs; one for each sensor connected to the transmitter. The analog output associated with Sensor 1 also has the digital HART (Highway Addressable Remote Transducer) communication superimposed on the analog signal. If two sensors are connected, the digital HART communication carries information for both sensors. S5000 also has Modbus and Bluetooth communication options. Bluetooth is used for status inquiry and setup.

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area 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.

The equipment are found to comply with following location/application dependent requirements:

Temperature:

TEM-D: Tested at -55°C to +70°C (ref. IEC 60092-504 (2016) table 1 item 6-7)

Vibration:

VIB-A: Tested at $\pm 1\text{mm}$ / $\pm 0.7\text{g}$ (ref. IEC 60092-504 (2016) table 1 item 10)

EMC:

EMC-B: Bridge and open deck zone (ref. IEC 60092-504 (2016) table 1 item 19-20)

Enclosure:

C (IP66) Open deck (ref. IEC 60092-201 (1994) table 5)

Enclosure Digital Sensor:

B (IP65) Engine room.

Type Examination documentation

Tests carried out

IEC 60092-504:2016,
IEC 60533:2015,
EN 60079-0:2012 incl. A11:2013,
EN 60079-29-1:2007.



Job Id: **344.1-007942-1**
Certificate No: **MEDB00003VB**

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 (wheel mark), followed by
 - identification number of the NoBo involved in production control (MED D)
 - the year the mark is affixed
 - Example: 0575/2018