EC TYPE EXAMINATION CERTIFICATE

Certificate No: **MED-B-9493** Item No: **A.1/3.51** Job Id: **344.1-004543-1**

DNV.GL

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 fire detection and fire alarm systems

with type designation(s) Multi-Spectrum Infrared Flame Detector FL4000H

Issued to General Monitors Inc Lake Forest CA, United States

is found to comply with the requirements in the following Regulations/Standards: Annex A.1, item No. A.1/3.51 and Annex B, Module B in the Directive. SOLAS 74 as amended, Regulation II-2/7 & X/3, 2000 HSC Code 7, FSS Code 9 and IMO MSC.1/Circ.1242

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

Høvik, 2014-11-21 for DNV GL



Notified Body No.: 0575

Marianne Strand Valderhaug Head of Department

DNV GL local office: Long Beach This Certificate is valid until 2019-11-20

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 FL4000H is designed to detect typical fires such as those produced by alcohol, n-heptane, gasoline, jet fuels and hydrocarbons. In addition, the FL4000H can see through dense smoke produced by diesel, rubber, plastics, lube oil, and crude oil fires.

The Model FL4000H is an advanced multi-spectrum flame detector designed to provide superior false alarm immunity with the widest field of view.

The FL4000H's electronics are housed in a stainless steel explosion-proof enclosure.

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 following location/application dependent requirements (for definition of each of the location classes, see below the table):

MODEL	TEMPERATURE	VIBRATION	EMC	ENCLOSURE
Multi-Spectrum Infrared Flame Detector FL4000H	D	А	В	IP66/IP67

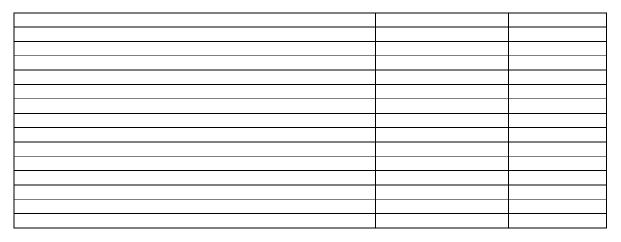
Definition of the location classes with reference to relevant standards:

Temperature:

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

IP66/IP67 (ref. IEC 60529: 2001)

Type Examination documentation



Tests carried out

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

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- IEC 60092-504 (2001) including IEC 60092-504 Corrigendum 1 (2011)
- IEC 60533 (1999)
- EN54-10: (2002) including A1(2005)

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.