

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fire Detector**

with type designation(s)
FL500 UV/IR FLame Detector

Issued to

General Monitors Inc
Lake Forest, CA, USA

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature D
Humidity B
Vibration A
EMC B
Enclosure C, IP66/67

Issued at **Høvik** on **2020-01-23**

This Certificate is valid until **2025-01-22**.

DNV GL local station: **Long Beach**

for **DNV GL**

Approval Engineer: **Nils Jarem**

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Marta Alonso Pontes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-032956-1**
Certificate No: **TAA00002KN**

Product description

Model FL500 is an ultraviolet/infrared (UV/IR) flame detector. It detects the ultraviolet and infrared spectral regions of flame to produce a system which is highly immune to false alarms caused by lightning, arc-welding, hot objects, and other sources of radiation.

The FL500 uses a UV radiation-sensitive phototube and an IR detector to identify fires. The FL500 is available with the following outputs: 4 to 20 mA signal, Immediate Alarm Low (relay), Time-delayed Alarm High (relay), RS-485 Modbus RTU, and HART 7 communication.

Place of manufacture

General Monitors
26776 Simpatica Cir
Lake Forest, CA 92630

General Monitors Ireland Ltd.
Ballybrit Business Park
Galway, Ireland

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems

Application/Limitation

Ex installations 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 GL.

Information on Ex-Certification received from manufacturer – Not verified by DNV GL		
Equipment	Certified	Certificate No.
FL500	Ex db IIC T5 Gb Ex tb IIIC T100°C Db Ta: -55°C to +85°C	IECEX SIR 18.0026X

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.
Functional testing EN 54-10:2002 + A1:2005

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE