DNV·GL

Certificate No:
TAA00000SR

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flame Detector

with type designation(s)
40/40L, 40/40LB, 40/40L4, 40/40L4B

Issued to
Spectrex Inc.
Cedar Grove NJ, United States

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.

DNV GL Location Classes				
Temperature	**Humidity**	**Vibration**	**EMC**	**Enclosure**
D	B	A	B	C

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**C**

This Certificate is valid until **2021-10-13**.

Issued at **Hamburg** on **2016-10-14**
DNV GL local station: **New York** for **DNV GL**

Approval Engineer: **Didier Girardin**

Duy Nam Le
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.

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Product description

Model 40/40L and 40/40LB provides a combination of UV and IR sensors, where the IR sensor operates at a wavelength of 2.5-3.0 µm and can detect hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires. Model 40/40L4 and 40/40L4B is identical to the 40/40L except that the IR sensor works at a wavelength of 4.5 µm and is only suitable for hydrocarbon-based fires. The UV/IR flame detector senses radiant energy in the short wave section of both the ultraviolet and infrared portions of the electromagnetic spectrum. The signals from both sensors are analyzed for frequency, intensity and duration. Simultaneous detection of radiant energy in both the UV and IR sensors triggers an alarm signal.

Responsibility

The Holder of Certificate takes the responsibility that both design and production are in compliance with the Rules and standards listed on page 1,2 of this Type Approval Certificate.

Application/Limitation

The Type Approval covers hardware and software listed under Product description. As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 – 1.2.3 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.
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.
When the type approved software is revised (affecting all future deliveries) DNV GL is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Tests carried out

Applicable tests according to DNV GL Standard for Certification DNVGL-CG-0339.
Relevant tests of application functions in accordance with EN54-10: 2002.

Marking of product

The products to be marked with:
- Model name
- Manufacturer name
- Serial number

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 at least every second year and at renewal of this certificate.
END OF CERTIFICATE