

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Flame Detector**with type designation(s)  
**20/20MI**

Issued to

**Spectrex Inc.**  
**Cedar Grove, NJ, United States**is found to comply with  
**DNV GL rules for classification – Ships and offshore units****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

<b>Temperature</b>	<b>A</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>C</b>

This Certificate is valid until **2019-12-31**.Issued at **Høvik** on **2016-05-30**DNV GL local station: **New York**Approval Engineer: **Nils Jarem**for **DNV GL**

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**Odd Magne Nesvåg**  
**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: **262.1-004723-4**  
Certificate No: **TAA00000FS**

## Product description

Model 20/20MI-1xxC is a high reliability compact, self-contained triple spectrum infrared flame detector. This type approval covers software version S78702F for flame detector 20/20MI.

## 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.

## Type Approval documentation

<b>Doc. name</b>	<b>Doc. no.</b>	<b>Doc. version</b>
SharpEye 20/20MI, Mini Triple IR Triple Flame Detector data sheet	2020mini	2014-06
VdS Certificate for type Sharpeye 20/20 MI	G 207073	2014-07-28
SharpEye Triple IR (IR3) Flame Detector Model 20/20MI User's and Maintenance Manual	TM 787100	D / 2011-04
VdS Software Laboratory Test Report	SW-2006216	2006-10-23
QualiTech, Environmental&Mechanical Laboratory Test Report SI&MI	20080402-1452	01/2008-02-04
VdS Test Report for 20/20MI	BMA 07034	2007-04-23
EMCTest Report for 20/20MI	SPC 190508	1 / 2008-06-16

Type approval periodical assessment report for A-12318, DNV GL Piraeus 2016-03-22.

## Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.  
Relevant tests of application functions in accordance with EN54-10.

## Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number

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### **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