

DNV

DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10899
This Certificate consists of 4 pages

This is to certify that the
Flame Detector

with type designations
20/20MI; 20/20SI


Manufactured by
Spectrex Inc.
Cedar Grove, United States

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards

Application
Location classes

Type	20/20MI; 20/20SI
Temperature	A
Humidity	B
Vibration	A
EMC	B
Enclosure	C

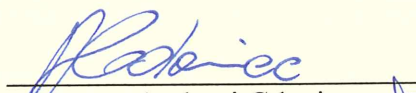
Place and date
Høvik, 2008-11-27
for DET NORSKE VERITAS AS


Odd Magne Nesvåg
Head of Section



Local Office
DNV Stavanger

This Certificate is valid until
2010-12-31


Andrzej Gdaniec
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: A-10899
File No.: 891.40
Job. Id.: 262.1-004723-1

Product description

Model 20/20MI-1xxC is a high reliability compact, self-contained triple spectrum infrared flame detector.

Model 20/20SI-C(Aluminium) & 20/20SI-C-ST(316ss) are a high reliability compact, self-contained triple spectrum infrared flame detectors using programmable algorithms which checks the ratio and correlation of data received by the three sensors.

This type approval covers software version S88901A 20.09.2005 for the 20/20SI version and S78702D 06.06.2005 for the 20/20MI version.

Manufacturer

Spectrex Inc.
Peckman Industrial Park
218 Little Falls Road
Cedar Grove, New Jersey 07009, USA

Place of production

Spectrex Inc.
Peckman Industrial Park
218 Little Falls Road
Cedar Grove, New Jersey 07009, USA

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 A 202 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 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.



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Type Approval documentation

Doc. name	Doc. no.	Doc. version
SharpEye 20/20MI, Mini Triple IR Triple Flame Detector data sheet	DS-F-IR3 (MI)	June 2004
SharpEye 20/20SI, Mini Triple IR Triple Flame Detector data sheet	DS-F-SI	June 2007
VdS Certificate for type Sharpeye 20/20 MI	G 207073	01.06.2007
VdS Certificate for type Sharpeye 20/20 SI	G 207121	28.09.2007
SharpEye Triple IR (IR3) Flame Detector Model 20/20SI User's and Maintenance Manual	TM 784100	Rev.B August 2004
SharpEye Triple IR (IR3) Flame Detector Model 20/20MI User's and Maintenance Manual	TM 787100	Rev.C August 2004
VdS Software Laboratory Test Report	SW-2006216	2006 Oct 20
QualiTech, Environmental&Mechanical Laboratory Test Report SI&MI	20080402-1452 Edition 01	02/04/2008
VdS Test Report for 20/20MI	BMA 07034	2007 April 23
VdS Test Report for 20/20SI	BMA 07076	2007 August 29
EMCTest Report for 20/20MI	SPC 190508	2008 June 16
EMCTest Report for 20/20SI	SPC 200508	2008 June 16

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.

Certificate retention survey

The scope of the retention/renewal survey 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 survey 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



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- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE