DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13278**

This is to certify that the
Flame Detector

with type designation(s)
40/40I Triple IR Flame Detector with Mounting Bracket 40/40-001

Manufactured by
Spectrex Inc.
Cedar Grove, New Jersey, USA

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:

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	C

This Certificate is valid until **2017-06-30**.

Issued at **Høvik** on **2013-06-20**

DNV local station: **New York**

Approval Engineer: **Andrzej Gdaniec**

for **Det Norske Veritas AS**

Digitally Signed By: Sneen, Ståle
Location: DNV Høvik, Norway
Signing Date: 2013-06-21, on behalf of

Odd Magne Nesvåg
Head of Section

Product description

Model 40/40I is a triple IR flame detector with three sensitive infrared channels processing the signal to analyze the dynamic characteristics of all conceivable types of hydrocarbon fires.

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.

Type Approval documentation

Doc. name	Doc. no.	Doc. version
SharpEye 40/40I, Triple IR (IR3) Flame Detector data sheet	DS-F-40/40I	March 2013
SharpEye Triple IR (IR3) Flame Detector Model 40/40I User's and Maintenance Manual	TM 40/40I	February 2013
QualiTech, Environmental&Mechanical Laboratory Test Report flame detector	20080528-0944 Edition 01	28/05/2008
VdS Test Report acc. to EN54-10	BMA 12118	2012-11-22
EMCTest Report for 40/40I	SPC 231008	2008 October 23
QualiTech, Environmental&Mechanical Laboratory Test Report 40/40I	20090427-0943 Edition 01	27/04/2009
QualiTech, Environmental&Mechanical Laboratory Test Report 40/40I&20/20MI	20090215-1335 Edition 01	15/02/2009

DNV Piraeus periodical assessment report for A-11330, dated 2013-04-30.

Tests carried out

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

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