



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10564
This Certificate consists of 4 pages

This is to certify that the
Fire Detector
with type designation(s)
Discovery 58000-400MAR/500MAR/600MAR/700MAR

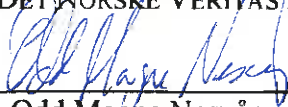
Manufactured by
Apollo Fire Detectors Limited
HAVANT PO9 1JR, United Kingdom

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	A
Humidity	B
Vibration	A
EMC	B
Enclosure	B

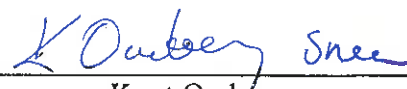
Place and date
Høvik, 2008-01-03
for DET NORSKE VERITAS AS


Odd Magne Nesvåg
Head of Section



Local Office
DNV London

This Certificate is valid until
2012-06-30


Knut Omberg
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-10564
File No.: 473.12
NPS Job: 262.1-003081-1

Product description

The following Discovery fire detectors installed with mounting base 45681-210 are included in this type approval:

- Heat detector, 58000-400MAR
- Ionisation smoke detector, 58000-500MAR
- Optical smoke detector, 58000-600MAR
- Optical smoke/heat multisensor detector, 58000-700MAR

Application/Limitation

Not for application in hazardous areas.

The Type Approval covers hardware listed under Type Designation/Product Description. In each case the hardware is used in application to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system. Reference to applied hardware as listed above, as well as reference to this certificate is to be made through the instrument and equipment list covering the application system in question.

Reference is made to DNV Rules for Ships Pt. 4 Ch. 9 - Control and Monitoring Systems



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Type Approval documentation

Heat detector 58000-400MAR (Software version 34000-046SW)

Gen. Assembly Drawing: 58000-400, issue 2
Schematic Diagram: 58000-400CD, issue 6
Engineering Product Guide: PP2052/2001/issue 4
Test Reports: LPC TE 90372, dated. 1999-04-16
Apollo No. 1657.0, dated. 2003-03-14
Apollo No. 1086 v1, dated. 2000-08-09

Ionisation smoke detector, 58000-500MAR (Software version 34000-007 188.5)

Gen. Assembly Drawing: 58000-500, issue 1
Schematic Diagram: 58000-500CD, issue 5
Engineering Product Guide: PP2052/2001/issue 4
Test Reports: LPC TE 90373, dated. 1998-12-29
Apollo No. 1659.0, dated. 2003-03-26
Apollo No. 1080 v1, dated. 2000-07-14

Optical smoke detector, 58000-600MAR (Software version 34000-045SW)

Gen. Assembly Drawing: 58000-600, issue 1
Schematic Diagram: 58000-600CD, issue 9
Engineering Product Guide: PP2052/2001/issue 4
Test Reports: LPC TE 90371, dated. 1999-04-16
Apollo No. 1658.0, dated. 2003-03-24
Apollo No. 971.1 v1, dated. 1998-09-23

Multisensor detector, 58000-700MAR (Software version 34000-044SW)

Gen. Assembly Drawing: 58000-700, issue 1
Schematic Diagram: 58000-700CD, issue 6
Engineering Product Guide: PP2052/2001/issue 4
Test Reports: LPC TE 90373, dated. 1998-12-29
Apollo No. 1659.0, dated. 2003-03-26
Apollo No. 1091 v1, dated. 2000-10-31

Certificate for IP44: TUV SX615834-001 Issue 1
Test report, Limited EMC testing: TUV OO615834/01 Issue 1
Test report, EMC testing: TUV job 75902489-41000
Retention survey report: Dated 2007-11-22

Tests carried out

Relevant tests according to "Standard for Certification No. 2.4 – April 2001"



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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
- 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