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Certificate number: 12242/B0 BV

File number: AP 3470

Product code: 3782H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections***TYPE APPROVAL CERTIFICATE***This certificate is issued to***APOLLO FIRE DETECTORS LIMITED**

Havant - UNITED KINGDOM

*for the type of product***SMOKE FIRE DETECTORS**

Discovery Series

Ionisation Smoke Detector 58000-500 MAR

Optical Smoke Detector 58000-600 MAR

Multisensor Detector 58000-700 MAR

Regulations and standards:BUREAU VERITAS Rules for the Classification of Steel Ships.
EN 54-7:2000+A1:2002+A2:2006, EN 54-5:2000+A1:2002.*This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.***This certificate is valid until: 23 Mar 2014**

At Neuilly, on: 23 Mar 2009

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office: BV LONDON
Surveyor: S. Yule

L.COURNEGELONGUE



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Discovery 58000-500/600/700 MAR Smoke Detectors.

1.1 - Main Characteristics of Ionisation Smoke Detector Part No: 58000-500 MAR

Type	Analogue Addressable with Conventional alarm facility during CIE processor fault.
Principle	Point Detector using ionisation chamber.
Additional Function	Compensation for Sensor drift. Apollo Discovery Transmitting Protocol compatible with XP95 Systems
Response Threshold Value	Adjustable (5 Modes - y value from 0.45 to 1.0).
Protection Index	IP 43 Indoor.
Working Temperature	-20°C to 60°C
Power Supply	24 VDC (17 to 28 VDC)
Software Number / Issue	34000-007 / 5

1.2 - Main Characteristics of Optical Smoke Detector Part No: 58000-600 MAR

Type	Analogue Addressable with Conventional alarm facility during CIE processor fault.
Principle	Point Detector using scattered light.
Additional Function	Compensation for Sensor drift. Apollo Discovery Transmitting Protocol compatible with XP95 Systems
Response Threshold Value	Adjustable (5 Modes - Obscuration from 1.4 to 2.4 %/m).
Protection Index	IP 43 Indoor.
Working Temperature	-20°C to 60°C
Power Supply	24 VDC (17 to 28 VDC)
Software Number / Issue	34000-009 / 4

1.3 - Main Characteristics of Multisensor Detector Part No: 58000-700 MAR

Type	Analogue Addressable with Conventional alarm facility during CIE processor fault.
Principle	Point Detector using scattered light and a Thermistor.
Additional Function	Compensation for Sensor drift. Apollo Discovery Transmitting Protocol compatible with XP95 Systems
Response Threshold Value	Adjustable (5 Modes) 3 Multisensor Modes and 1 Optical Mode (Obscuration from 1.1 to 4.2 %/m) 1 Heat Mode (A1 Class according to EN 54-5).
Protection Index	IP 43 Indoor.
Working Temperature	-20°C to 60°C
Power Supply	24 VDC (17 to 28 VDC)
Software Number / Issue	34000-008 / 7

Note: Detectors are to be used in conjunction with the 45681-210 Mounting base.

2. DOCUMENTS AND DRAWINGS :

Apollo:

Discovery Engineering Product Guide, No. PP2052/2004/Issue 4.
Build Standard Sheets, Product No. 5800-500 Issue 10, No. 58000-600 Issue 13 and No. 5800-700 Issue 15
Drawings N° 58000-500 GA issue 1, 58000-500 CD Issue 5 and 43781-700 issue 5
N° 58000-600 GA issue 1, 58000-600 CD issue 9 and 43781-800 issue 9
N° 58000-700 GA issue 1, 58000-700 CD issue 6 and 43781-900 issue 6
Embedded Software Development, Issue 1, Rev. 1
Embedded Software Guidance 2008, Issue 1d.

3. TEST REPORTS :

Apollo:

Test report N° 1660.0 dated 25/03/2003
Test report N° 1659.0 dated 26/03/2003.

LPC:

Test report N° TE 90374 dated 30/Dec./1998
Test report N° TE 90371 dated 16/April/1999
Test report N° TE 90373 dated 29/Dec./1998.

BRE: EC-Certificate of Conformity

58000-500: No. 0832-CPD-0023 Issue 4 dated 17/11/2006

58000-600: No. 0832-CPD-0024 Issue 4 dated 17/11/2006

58000-700: No. 0832-CPD-0025 Issue 4 dated 20/11/2006.

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Approval also valid for ships having to comply with SOLAS 74 Convention, as amended, and for units having to comply with IMO Resolution A649 (The "MODU Code").

4.4 - The Associated fire alarm central unit used with the above equipment (cf. clause 1) shall be Type Approved.

4.5 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.6 - The detectors are not to be used in hazardous areas.

4.7 - The complete installation design showing the location of the detectors should be submitted to the Society's Surveyors for approval.

4.8 - Satisfactory performance tests should be witnessed on each installation by the Society's Surveyor after installation on board.

4.9 - An instruction manual covering operation, maintenance and testing should be placed on board each ship fitted with this Unit.

4.10 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS :5.1 - The **Discovery 58000-500/600/700 MAR** Smoke Detectors are to be manufactured, examined and tested by **APOLLO FIRE DETECTORS LIMITED** in accordance with the type(s) described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **APOLLO FIRE DETECTORS LIMITED** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.5.3 - **APOLLO FIRE DETECTORS LIMITED** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

APOLLO FIRE DETECTORS LIMITED
36 Brookside Road
Havant
Hampshire
UNITED KINGDOM

6. MARKING OF PRODUCT :

- Maker's name or trade mark.

- Serial number of the units.

- Equipment type number or model identification under which it was type-tested.

- According to EN 54-5 and / or EN 54-7.

7. OTHERS :

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the Equipment at any time, and that:

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will accept the responsibility for informing shipbuilders or their sub-contractors of the proper methods of use and general maintenance of the Equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate n° 12242/A1 BV issued on 02/07/2004 by the Society.

*** END OF CERTIFICATE ***