



Marine & Offshore

Certificate number: 12242/E0 BV File number: AP 3470 Product code: 3782H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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## **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

**Requirements:** 

BUREAU VERITAS Rules for the Classification of Steel Ships. EN 54-7: 2018, EN 54-5: 2017 + A1: 2018.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

## This certificate will expire on: 09 Nov 2028

For Bureau Veritas Marine & Offshore, At BV LONDON, on 09 Nov 2023, Spencer Yule

This certificate was created electronically and is valid without signature



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 Marine & Offshore. 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 & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore 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.

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# THE SCHEDULE OF APPROVAL

#### **<u>1. PRODUCT DESCRIPTION:</u>**

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

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

Туре	: 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	: 34000-065 / 1

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

112 Main Charac	cristics of optical shield 2	
Туре	: Analogue Add	Iressable with Conventional alarm facility during CIE processor fault.
Principle	: Point Detector	using scattered light.
Additional Function	n : Compensation	for Sensor drift.
	: Apollo Discov	very Transmitting Protocol compatible with XP95 Systems
Response Thresho	d Value : Adjustable (5	Modes - Obscuration from 1.4 to 2.4 %/m).
Protection Index	: IP 43 Indoor.	
Working Tempera	ure $: -20^{\circ}$ C to $60^{\circ}$ C	
Power Supply	: 24 VDC (17 to	5 28 VDC)
Software Number	' Issue : 34000-062 / 4	

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

Туре	: 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	$: -20^{\circ}$ C to $60^{\circ}$ C
Power Supply	: 24 VDC (17 to 28 VDC)
Software Number / Issue	: 34000-063 / 4

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

#### 2. DOCUMENTS AND DRAWINGS:

## Apollo:

Build Standard Sheets, Product No. 58000-500 Issue 20, No. 58000-600 Issue 30 and No. 58000-700 Issue 35 Drawings No. 58000-500 GA issue 2, 58000-500 CD Issue 6 and 43781-700 issue 9 No. 58000-600 GA issue 2, 58000-600 CD issue 14 and 43781-800 issue 15 No. 58000-700 GA issue 2, 58000-700 CD issue 8 and 43781-900 issue 9 Embedded Software Development, Issue 1, Rev. 1 Embedded Software Guidance 2008, Issue 1d. Discovery Engineering Product Guide, No. PP2052/2015/Issue 7a. 35852-138 Discovery Ionisation Support, Issue 1, dated 11/12/2017
DBI: Certificate of constancy of performance 58000-500: No. 2531-CPR-CSP10940, dated 07-07-2022. 58000-600: No. 2531-CPR-CSP10946, dated 07-07-2022.

## 3. TEST REPORTS:

#### Apollo:

Test report No. 1660.0 dated 25/03/2003

Test report No. 1659.0 dated 26/03/2003.

LPC:

C: Test report No. TE 90374 dated 30/Dec./1998

Test report No. TE 90371 dated 16/April/1999 Test report No. TE 90373 dated 29/Dec./1998

Test report No. TE 90075 dated 29/Dec./1998 Test report No. TE 93009 dated 12/Oct./1999

Test report No. TE 209309 dated 12/Oct./1999 Test report No. TE 209309 dated 23/May/2002

Test report No. TE 236936 dated 26/Nov./2007

Test report No. TE 238037 dated 28/Jan./2008

Test report No. TE 301792 dated 9/June/2015

Test report No. TE 260875 dated 9/March/2011.

#### BRE:

Test report No. TE P111208 Issue 1 dated 22/06/2018.

Test report No. TE-P105641-100 Rev.1, dated 02 Sep. 2022 eurofins:

EMC Test report No. 1278 CR, dated 30-05-2019.

EMC Test report No. 1861 CR, dated 29-01-2020.

EMC Test report No. 1041 IR, dated 12-04-2019.

EMC Test report No. 18R110 ER, dated 26-03-2018.

## 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 A1023 (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 rules and regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

4.11 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 8.

## 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **Discovery 58000-500/600/700 MAR** Smoke Detectors are to be supplied 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 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **APOLLO FIRE DETECTORS LIMITED** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, APOLLO FIRE DETECTORS LIMITED has declared to Bureau Veritas the following production site(s):

APOLLO FIRE DETECTORS LIMITED 36 Brookside Road Havant Hampshire UNITED KINGDOM

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## **<u>6. MARKING OF PRODUCT:</u>**

- 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 - It is APOLLO FIRE DETECTORS LIMITED's responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate n° 12242/D2 BV issued on 30 May 2023 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*