



CERTIFICATE NUMBER
16-LD1589460-1-PDA

DATE
07 Dec 2016

ABS TECHNICAL OFFICE
London Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
APOLLO FIRE DETECTORS LIMITED

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Alarm Sounding and Light Devices**

Model: **45681-394MAR**


This Product Design Assessment (PDA) Certificate 16-LD1589460-1-PDA, dated 07/Dec/2016 remains valid until 06/Dec/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING


Theodoros Chatzidakis
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

APOLLO FIRE DETECTORS LIMITED

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HAMPSHIRE ENGLAND

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Web: www.apollo-fire.co.uk

Tier: 3 - Type Approved, unit certification not required

TC

Product: Alarm Sounding and Light Devices

Model: 45681-394MAR

Intended Service:

ABS Classed Vessels and Offshore Installations in accordance with the listed ABS Rules and International Standards.

Description:

Marine Sounder Visual Indicator Base. The Discovery Marine sounder visual indicator base is used to provide audible and visual warning of fire and is controlled by the fire control panel by means of the Discovery protocol. The particular features of this base are available only when it is being controlled by the full Discovery protocol with the panel programmed accordingly. The Discovery Marine sounder visual indicator base can be used with a detector fitted or with a cap for operation as a stand-alone alarm device.

Rating:

Operating Voltage: 17-28V DC

Protocol Pulses: 5-9V

Current Consumption at 24V:

Device operated at max volume - 8mA;

Switch-on surge, <1s - 1.2mA;

Quiescent - 350microA;

Operating Temperature: -20C to +60C

Humidity: 0 - 95%

IP rating: 21D

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. 43781-968, Discovery Sounder Beacon Base, with Isolator, PCB Assembly, Revision: 6, Pages: 1

Drawing No. 45681-393CD sht1, Discovery, Isolated Sounder Beacon Base Schematic Diagram, Revision: 5, Pages: 1

Drawing No. 45681-393CD sht2, Discovery, Isolated Sounder Beacon Base Schematic Diagram, Revision: 5, Pages: 1

Drawing No. 45681-393, Discovery Sounder Beacon Base with Isolator, General Assembly, Standard Tone, Revision: 2, Pages: 1

Drawing No. Correspondence, Resolution Of EN54-3 TestingStandard Application, Revision: -, Pages: -

Drawing No. PDA Request-Type-Approval-ABS-Rev, PDA Request-Type-Approval-ABS-Rev, Revision: -, Pages: -

Drawing No. TE245407, Technical Evaluation of Model 45681-393 APO Apollo Fire Detectors Ltd Sounder Beacon Based with Isolators to EN54-3:2001 and EN54-17:2005, Date: 10-July-2009, Revision: -, Pages: 73

Terms of Validity:

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STANDARDS

ABS Rules:

- Steel Vessel Rules (2016): 1-1-4/7.7, 1-1-A3&A4; 4-7-3/11.5.1(i), 4-9-8/3, 4-9-8/7, 4-9-8 Table 1 and Table 2;
- Steel Vessels Under 90 Meters (295 Feet) in Length (2016): 1-1-4/7.7, 1-1-A3&A4; 4-6-1/11, 4-6-1/15, 4-7-2 Table 1;
- Facilities on Offshore Installations (2016): 1-1-4/9.7, 1-1-A2&A3;
- Offshore Support Vessels (2016): 1-1-4/7.7, 1-1-A3&A4; 4-7-3/11.5.1, 4-9-8/3, 4-9-8/7, 4-9-8 Table 1 and Table 2;
- Mobile Offshore Drilling Units (2016): 1-1-4/9.7, 1-1-A2&A3, 6-1-1/9, 6-1-1/13; 4.3.1/11, 4.3.1/15;
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2016): 1-1-4/7.7, 1-1-A3&A4;
- High Speed Crafts (2016): 1-1-4/11.9, 1-1-A2&A3; 4-7-9/3, 4-7-9/7, 4-7-9 Table 9 and Table 10;
- Steel Barge Rules (2016): 1-1-4/7.9, 1-1-A3&A4; 4-1-3/5.7;

National:

NA

International:

- Regulations II – 2/7 and X/3 of SOLAS 2014 Consolidated Edition as Amended;
- IMO Resolution MSC98(73)- (FSS Code) Chapter 9, MSC.36(63)-(1994 HSC Code) 7, MSC.97(73)-(2000 HSC Code) 7 and MSC.1/Circ.1242;
- EN54-3(2001) including A1 (2002) and A2(2006), IEC 60092-504 (2001) Corr.1 (2011) and IEC 60533 (2015);

Government:

NA

EUMED:

Approved in accordance with the requirements for Fire Alarm Devices - Sounders, item A.1/3.53 of the European Union Marine Equipment Directive 2014/90/EU.

OTHERS:

NA

TC