



CERTIFICATE NUMBER
18-HS1772262-PDA

DATE
14 Sep 2018

ABS TECHNICAL OFFICE
Houston ESD - Piping

CERTIFICATE OF Design Assessment

This is to certify that a representative of this Bureau did, at the request of
ERL COMMERCIAL MARINE, INC.

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: **Level Indicating, Fixed Alarm Panel & Audio/Visual Annuncia...**

Model: **APM-2-E**

This Product Design Assessment (PDA) Certificate 18-HS1772262-PDA, dated 14/Sep/2018 remains valid until 13/Sep/2023 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

Tim Kimble
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-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

ERL COMMERCIAL MARINE

2560 CHARLESTOWN RD

NEW ALBANY IN

United States 47150

Telephone: (812) 948-8484

Fax: (812) 944-8808

Email: rwaiz@erlinc.net

Web:

Tier: 2 - PDA Issued

Product: Level Indicating, Fixed Alarm Panel & Audio/Visual Annunciator

Model: APM-2-E

Intended Service:

Marine & Offshore Application - Level indication for Tank Vessels & Barges

Description:

Level Indication Audio/Visual Annunciator Alarm for Tank Vessels & Barges

Rating:

Power: 24Volts (Two (2) 12V Batteries)

NEMA/EEMAC Type 4, Stainless, Non-Explosion Proof fixed Alarm panel.

Panel utilizes Stahl 9170/9172 dual channel intrinsically safe repeater relays.

Batteries charged with solar panel Model SLP-030-24U and solar controller Model SS-10L-24V.

Model 9170/9172 providing intrinsically safe outputs for use in Class I, Group A, B, C and D; Class II, Group E, F and G; Class II hazardous locations when installed in accordance with manufacturer installation drawing.

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:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. This type approval design assessment is covering hardware only.
3. Alarm panel must be located in a non-hazardous area (safe area).
3. Installation of intrinsically safe systems is to be in accordance with testing laboratory reports and manufacturer's specification and to the satisfaction of the attending Surveyor. This is to include Bulkhead and Deck penetrations. See 4-8-4/27.7 and 4-8-4/27.9 of the ABS Steel Vessel Rules.
4. Level indication alarm system and intrinsically safe system documentation are to be submitted for review for each application. See 5-2-3/7.15 of the ABS Steel Barge Rules, 4-8-3/13.1 and 4-8-4/27.7 of the ABS Steel Vessel Rules and 46 CFR 111.105-11 (b),(c),(d).

Notes/Drawing/Documentation:

Drawing No. 106AD140B Schematic 2018, Electrical Schematic APM-2-E (NEW STYLE), Revision:19 April 2018, Page:1

Document. 9170 x0-12-x1 9170 x0-13-21 Schaltverstaerker Auto en, Ex I Isolators Switching Repeater with Power Relay, Pages:6

Document. Series 9172, For binary signal and control circuits, Pages:7

Document. Dialight-MDEL556X001-55453, 556 Series High Intensity LED Panel Mount Indicators, Pages:3

Document. Duracell-Ultra-SLA-Deep-Cycle-Product-Sheet-ID1302, SLA Batteries Deep Cycle Duracell Ultra Deep Cycle Batteries are designed to achieve maximum cycles, Pages:2

Document. Models LP3P, LP3S, LP3T, Stream Line Low Profile Strobe Light, Pages:4

Document. Morningstar-corporation-sunsaver-ss-6-12v-charge-controller-specs-321727589, SOLAR CONTROLLER - Morningstar is pleased to introduce our third generation SunSaver Since its first, Pages:2

Document. SLP030-24U, High Efficiency Multicrystalline PV Module, Page:1

Document. C7-A20, General purpose Two pole, change-over contacts, Page:1

Document. werma_techn, Technisches Datenblatt/Technical Data Sheet, Pages:2

Document. ZF D449-R1RA, Miniaturschalter D44X,Pages: 1

Document. Hoffman Enclosure 2157146, Pages 2

FM16US0122X_023_00, Certificate of Conformity, Dated: 17 April 2017, Pages: 19

Terms of Validity:

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STANDARDS

ABS Rules:

The Rules for Conditions of Classification, Part 1 2018 Steel Vessels Rules 1-1-4/7.7, 1-1-A3 & A4, which covers following:

Rules for Building and Classing Steel Barges: 4-1-3/5.7

Rules for Building and Classing Steel Vessels: 4-8-3/1.7, 4-8-3/1.11.1, 4-8-3/13.1; 4-8-4/27.5.1

Rules for Building and Classing Steel Vessels Under 90 meters (295 feet) in Length: 4-6-3/3.1.1(a), 4-6-3/11.1.1

National:

FM16US0122X

International:

N/A

Government:

46 CFR 111.105-11 (a)

EUMED:

N/A

OTHERS:

N/A