



CERTIFICATE NUMBER
16-HS1505954-PDA

DATE
02 May 2016

ABS TECHNICAL OFFICE
Houston SED Machinery - Piping
& Electrical Sys.

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
EATON CORPORATION

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: **Surge-Protective Devices (SPD)**

Model: **LORN-120NNC-NM, LORN-480NNC-NM, LHP-480NNC-NM, LORN-3Y
120/208A-C-NM, LORN-1S 120A-C-NM, LORN-1S 480C-NM, LORN-1S 120A-
C-NMX, LORN-120NNC-NMX, LORN-240-NNC-NM, LORN-480NNC-NMX**

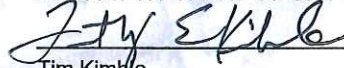
This Product Design Assessment (PDA) Certificate 16-HS1505954-PDA, dated 02/May/2016 remains valid until 01/May/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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



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).

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Tier: 2 - PDA Issued

Product: Surge-Protective Devices (SPD)
Model: LORN-120NNC-NM, LORN-480NNC-NM, LHP-480NNC-NM, LORN-3Y 120/208A-C-NM,
LORN-1S 120A-C-NM, LORN-1S 480C-NM, LORN-1S 120A-C-NMX, LORN-120NNC-
NMX, LORN-240-NNC-NM, LORN-480NNC-NMX

Intended Service:
Marine & Offshore Application - Specifically designed for Shipboard and Shore Based Power Distribution and Equipment Protection.

Description:
Internally Fused, Parallel connected Multi-Circuit Surge-Protective Devices with remote alarm capability

Rating:
Operating Temperature: -40 deg F to +185 deg F
Powder coated steel weather tight: NEMA Type 4, 4X
Input Power Frequency: 10-2240 Hz
System Voltages: Split-Phase 12/240V; Single Phase 480V; Three Phase Wye 120/240V and Three Phase Delta 120/240/480V

Service Restriction:
Unit Certification is not required for this product. If the manufacturer or purchaser's 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:
These products are intended for installation on load side of main service disconnect, in circuits not exceeding 600 V rms.
The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:
Drawing no. DL01.020, Rev. A: LORN FIELD LID HARDWARE/ASSEMBLY
Drawing no. DL01.022, Rev. A: LORN LID HARDWARE?ASSEMBLY
Drawing no. DL01.035, Rev. A: ZLORN-35-PEME ASSEMBLY
Drawing no. DL01.039, Rev. A: XK80-008-PEM ASSEMBLY
Drawing no. DM.01.E0259, Rev. 8: IT ITEM NO. E0259 LID STUD PLACEMENT DETAIL
Drawing no. DM.09.E0273, Rev. 6: IT IEM NO E0273 8x10 STAINLESS STEEL LID
Drawing no. DP.01.PC119, Rev. 3: IT ITEM PC19
Drawing no. DP.01.PC134, Rev. 2: IT IEM NO. PC134
Drawing no. DP.01.PC135, Rev. 1: IT ITEM NO. PC135 HP/ORN ATNE PCB
Drawing no. DP.09.PC097, Rev. 6: IT ITEM NO. PC097 PT* DIAGNOSTIC (NON-SD) PCB
Drawing no. DP.09.PC112, Rev. 5: IT ITEM NO. PC112
Drawing no. DS.01.051, Rev. 2: DRC 3 PHASE DELTA DIAGNOSTIC SCHEMATIC PC097
Drawing no. DS.01.056, Rev. 1: DRC THREE PHASE WYE DIAGNOSTIC SCHEMATIC PC097
Drawing no. DS.01.028, Rev. 1: DRC SINGLE PHASE DIAGNOSTIC SCHEMATIC PC097
UL File E316410 dated 19 August 2009, Report on SURGE PROTECTION DEVICE(VZCA, VZCA7)

Terms of Validity:
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This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence

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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.

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STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1 2016 Steel Vessel Rules:1-1-4/7.7, 1-1-A3, 1-1-A4 which covers the following:

2016 Steel Vessel Rules: 4-8-2/9.3

2016 Steel Vessels Under 90 Meters (295 feet) in Length: 4-6-2/9.1.2

2016 Offshore Support Vessels (OSV Rules) :4-8-2/9.3

Rules for Conditions of Classification, Part 1 - 2016 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2016 Mobile Offshore Drilling Units: 4-3-2/9.1.2

National:

UL 1449 (UL File E316410 Vol. 1 Sec. 2), Revised 2014-10-15

UL Certificate no. 2051229-E316410, Report Reference E316410-20090819 dated 2015 December-29

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA