

# Eaton's LORN series surge protective devices for marine-grade electrical distribution equipment



## Contents

| Description                            | Page |
|--|------|
| Introduction . . . . .                 | 2    |
| Applications . . . . .                 | 2    |
| Features . . . . .                     | 2    |
| Standards and certifications . . . . . | 2    |
| Performance data . . . . .             | 2    |
| Product selection . . . . .            | 3    |
| Technical data . . . . .               | 3    |



Powering Business Worldwide

## Introduction

### Eaton's LORN series of fused, surge protective devices

Harsh environmental conditions and increasing onboard technology present challenges for maintaining reliable power aboard a vessel or a rig. Whether a modest commercial vessel or a vast, multi-level cruise ship, one small power transient can impact critical safety and navigation equipment.

## Applications

Eaton's Innovative Technology LORN series surge protective device (SPD) solutions have been specifically designed and tested for marine environments to protect vital pieces of equipment, safeguard personnel, and minimize downtime. The solution is also easy to install and requires no regular maintenance—providing the highest return on investment of any piece of power quality equipment.

## Features

- 20-year replacement warranty
- UL® 1449 4th Edition Listed—E316410-VZCA
- Internally threaded conduit fitting and multi-point mounting feet
- Operating temperature: -40 °F to +185 °F
- Typical 4–6 month return on investment

## Standards and certifications

UL 1449 3rd Edition recognized component for the United States and Canada, certified by Underwriters Laboratories certification and follow-up service.

## Performance data

Table 1. Part number performance data

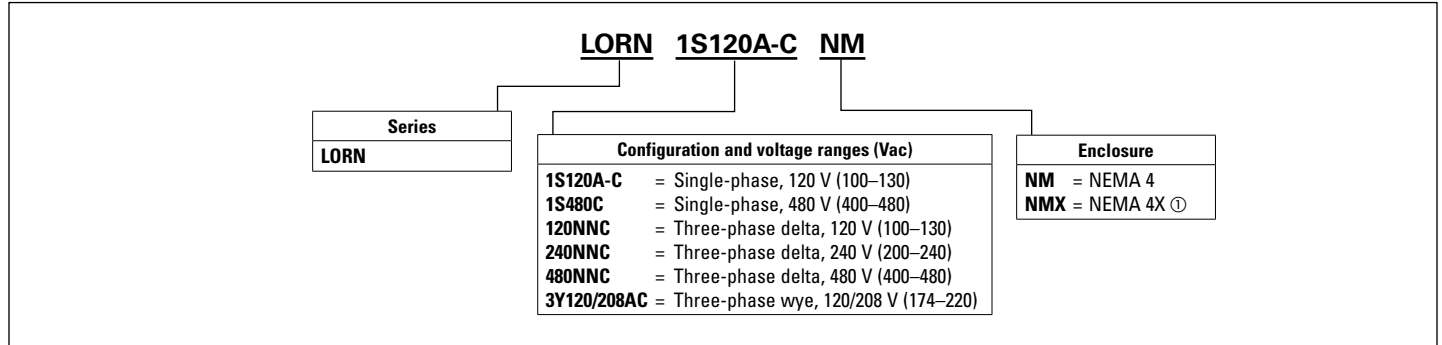
| Part number                | Product type | Voltage (Vac) | Voltage range | Enclosure | Phase ①           | Protection modes | VPR (Vpk) | I <sub>n</sub> (kA) | Maximum continuous operating voltage |
|----------------------------|--------------|---------------|---------------|-----------|-------------------|------------------|-----------|---------------------|--------------------------------------|
| <b>LORN-1S120AC-NM</b>     | Type 2 SPD   | 120           | 100–130       | NEMA® 4   | Single-phase      | L-G              | 700       | 5                   | 150                                  |
|                            | Type 2 SPD   | 120           | 100–130       | NEMA 4    | Single-phase      | L-L              | 700       | 5                   | 150                                  |
| <b>LORN-1S120A-C-NMX</b>   | Type 2 SPD   | 120           | 100–130       | NEMA 4X   | Single-phase      | L-G              | 700       | 5                   | 150                                  |
|                            | Type 2 SPD   | 120           | 100–130       | NEMA 4X   | Single-phase      | L-L              | 700       | 5                   | 150                                  |
| <b>LORN-3Y120/208AC-NM</b> | Type 2 SPD   | 120/208       | 174–220       | NEMA 4    | Three-phase wye   | L-L              | 1200      | 3                   | 320                                  |
|                            | Type 2 SPD   | 120/208       | 174–220       | NEMA 4    | Three-phase wye   | L-N              | 600       | 3                   | 150                                  |
|                            | Type 2 SPD   | 120/208       | 174–220       | NEMA 4    | Three-phase wye   | L-G              | 600       | 3                   | 150                                  |
|                            | Type 2 SPD   | 120/208       | 174–220       | NEMA 4    | Three-phase wye   | N-G              | 700       | 3                   | 150                                  |
| <b>LORN-120NNC-NM</b>      | Type 2 SPD   | 120           | 100–130       | NEMA 4    | Three-phase delta | L-L              | 700       | 5                   | 150                                  |
|                            | Type 2 SPD   | 120           | 100–130       | NEMA 4    | Three-phase delta | L-G              | 700       | 5                   | 150                                  |
| <b>LORN-120NNC-NMX</b>     | Type 2 SPD   | 120           | 100–130       | NEMA 4X   | Three-phase delta | L-L              | 700       | 5                   | 150                                  |
|                            | Type 2 SPD   | 120           | 100–130       | NEMA 4X   | Three-phase delta | L-G              | 700       | 5                   | 150                                  |
| <b>LORN-240NNC-NM</b>      | Type 2 SPD   | 240           | 200–240       | NEMA 4    | Three-phase delta | L-L              | 1200      | 3                   | 320                                  |
|                            | Type 2 SPD   | 240           | 200–240       | NEMA 4    | Three-phase delta | L-G              | 1200      | 3                   | 320                                  |
| <b>LORN-1S480C-NM</b>      | Type 2 SPD   | 480           | 400–480       | NEMA 4    | Single-phase      | L-L              | 1800      | 5                   | 552                                  |
|                            | Type 2 SPD   | 480           | 400–480       | NEMA 4    | Single-phase      | L-G              | 1800      | 5                   | 552                                  |
| <b>LORN-480NNC-NM</b>      | Type 2 SPD   | 480           | 400–480       | NEMA 4    | Three-phase delta | L-L              | 1800      | 3                   | 552                                  |
|                            | Type 2 SPD   | 480           | 400–480       | NEMA 4    | Three-phase delta | L-G              | 1800      | 3                   | 552                                  |
| <b>LORN-480NNC-NMX</b>     | Type 2 SPD   | 480           | 400–480       | NEMA 4X   | Three-phase delta | L-L              | 1800      | 3                   | 552                                  |
|                            | Type 2 SPD   | 480           | 400–480       | NEMA 4X   | Three-phase delta | L-G              | 1800      | 3                   | 552                                  |

① D = delta, Y = wye, S = single-phase

② L = line, N = neutral, G = ground

## Product selection

Table 2. Catalog numbering system



① Only available in split-phase 120 V, three-phase delta 120 V, and three-phase delta 480 V.

## Technical data

Table 3. Specifications

| Description                 | Specification                               |
|-----------------------------|---|
| Peak surge current          |   |
| LORN-1S120AC-NM             | 160 kA per phase                            |
| LORN-1S120A-C-NMX           | 160 kA per phase                            |
| LORN-1S480C-NM              | 160 kA per phase                            |
| LORN-120NNC-NM              | 120 kA per phase                            |
| LORN-120NNC-NMX             | 120 kA per phase                            |
| LORN-240NNC-NM              | 120 kA per phase                            |
| LORN-480NNC-NM              | 120 kA per phase                            |
| LORN-480NNC-NMX             | 120 kA per phase                            |
| LORN-3Y120-208AC-NM         | 160 kA per phase                            |
| Warranty                    | 20-year replacement                         |
| Unit listing                | UL 1449 4th Edition and UL 1283 5th Edition |
| System voltages             |   |
| Single-phase                | 120/240 V, 480 V                            |
| Three-phase wye             | 120/208 V                                   |
| Three-phase delta           | 120 V, 240 V, 480 V                         |
| Manufacturer qualifications | ISO® 9001<br>ISO 14001                      |
| Input power frequency       | 10–2240 Hz                                  |
| Response time               | ≤1 nanosecond                               |
| Protection modes            |   |
| Single-phase 120 V          | L-G, L-L                                    |
| Three-phase wye             | L-L, L-N, L-G, N-G                          |
| Three-phase delta           | L-G, L-L                                    |
| Circuit diagnostics         | LED indicator, 1 per phase                  |
| Internal protection         | Internal, replaceable, 30 A                 |
| Operating temperature       | –40 °F to +180 °F                           |

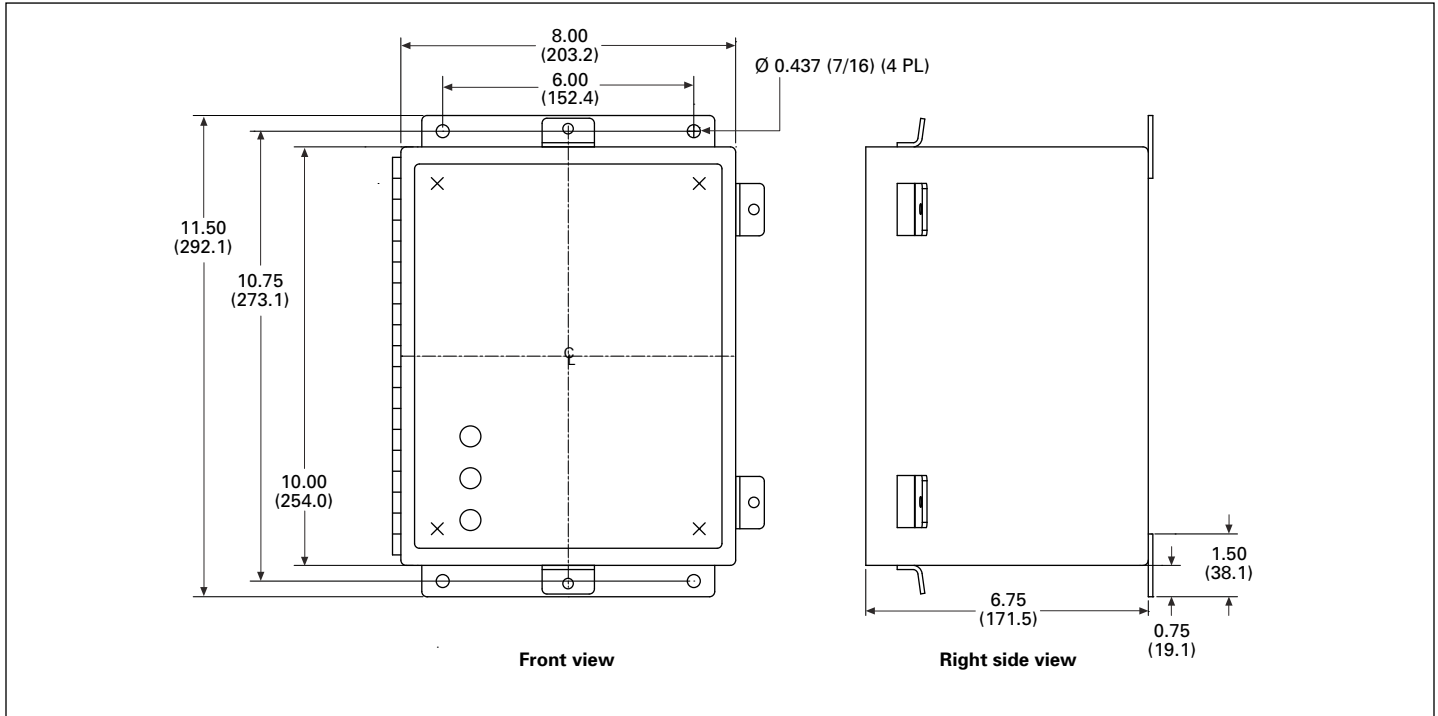


Figure 1. LORN dimensions in inches (mm)

For additional information, visit [www.itvss.com](http://www.itvss.com) or call 1-800-809-2772 option 5, option 2.

**Eaton**  
 1000 Eaton Boulevard  
 Cleveland, OH 44122  
 United States  
 Eaton.com

© 2022 Eaton  
 All Rights Reserved  
 Printed in USA  
 Publication No. TD158028EN / Z26730  
 September 2022



Eaton is a registered trademark.  
 All other trademarks are property of their respective owners.