



Document Title:

**Load-Break Feed-Thru Insert for 15kV Class**

Document Type:

**Specification**

Engineering Type

**Material Specification**

Document No.:

**4350.100**

Department

**Distribution**

Version:

**03**

Effective Date:

**Sep 12, 2024**

**Shared document with: N/A**

*\*Select the Departments impacted by the document*

**For others, specify here**

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N/A

**Related/Referenced Documents**

N/A

**Version History**

| Version | Date          | Revision Comments   |
|---------|---------------|---|
| 01      | May. 11, 2022 | PREPA to LUMA format and Table of compliance (TOC) added.   |
| 02      | Jun. 09, 2022 | Signature format modified.  |
| 03      | Sep. 12, 2024 | General format modifications, TOC updated, Section 4, 8, and 9 modified, and sections order rearranged. |



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Insert for 15kV Class  
Document No.: 4350.100  
Department: Distribution

## Item Version History

| Warehouse Catalog # | Asset Suite # | Version | Date       |
|---------------------|---------------|---------|------------|
| 038-01008           | 55170         | 6       | 09/12/2024 |



## 1. Introduction

This is a general specification that covers the minimum requirements for a 15 kV class load-break feed-thru insert to be used in the distribution system in Puerto Rico. Further information will be provided by LUMA Energy at the time of order placement and will provide information on site specific conditions, quantity, and other requirements. This document includes the general electrical and mechanical characteristics of the equipment/material.

## 2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this equipment/material to LUMA on previous orders, will not have to furnish samples at bid opening. The equipment/material will be received at the LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

## 3. Literature

- 3.1. Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature must include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. **The literature must be an official document from and certified by the manufacturer.** Failure to submit documents on time and duly certified by the manufacturer will cause bidder disqualification.
- 3.2. If required by LUMA, final drawings and documentation shall be submitted by the vendor before the manufacturing and shipping process for approval.

## 4. Compatible with

For compatible manufacturers and models, see Table 1. These models are examples of the equipment/materials described in this document and do not represent a preference. LUMA will evaluate equally any models not listed here during any acquisition event.

## 5. Markings

- 5.1. Containers shall be marked outside with LUMA Energy's purchase order and item number.
- 5.2. Package(s) to be delivered at warehouse shall be clearly marked with manufacturer and item information (part number, serial number, quantity, etc.).
- 5.3. Packaging labels and tags shall be waterproof.

## 6. Packaging

All equipment/material shall be packaged and marked in such a way as to facilitate handling and protection from damage and that the receiving warehouse can readily identify it and send it, in one complete unit, to a field location without opening crates or boxes to sort items and/or parts.

## 7. Number Per Package (Logistics)

Standard package: As per Table 1 or as requested by LUMA Energy.

## 8. Acceptance Criteria

- 8.1. Test required: certified by external laboratories.
- 8.2. Product shall be manufactured in accordance with the latest issue below (section 8.3). When conflicts occur between purchaser's specifications and the latest issue below, the purchaser's specification shall prevail.
- 8.3. Latest applicable codes, standards, and other regulations:
  - a. IEEE 386: For separable insulated connectors on power distribution systems rated 2.5 kV through 35 kV.
- 8.4. If any other standard different from the ones indicated in this document are used, the supplier must provide information showing compatibility with the required ones.

## 9. Description

- 9.1. The load-break feed-thru insert is used in underground system applications to create tap positions in an existing transformer, changing it from a radial feed one into a loop feed unit.
- 9.2. Shall be an insulated fully shielded submersible connector for loadbreak operations.
- 9.3. Shall be suitable for transformers and other apparatus with 200 A bushings wells that conform with ANSI/IEEE 386.
- 9.4. Shall accept elbow terminators and accessories meeting ANSI/IEEE 386 standard.
- 9.5. The following minimum information shall be permanently attached to or made an integral stamped part of the loadbreak feedthru insert:
  - a. Name of the device.
  - b. Manufacturer name and trademark.
  - c. Manufacturer type and identification number.
  - d. Date of manufacture and/or serial number.

9.6. Shall have the following approximate characteristics in compliance with ANSI/IEEE 386:

a. Voltage ratings and characteristics:

1. Standard voltage class 15 kV
2. Maximum rating phase to phase 14.4 kV
3. Maximum rating phase to ground 8.3 kV
4. AC 60 Hz 1 minute withstand 34 kV
5. BIL and full wave crest 95 kV
6. Minimum corona voltage level 11 kV

b. Current ratings and characteristics:

1. Continuous 200 A
2. Switching at 14.4 kV and 200 A for 0.17 s (10 cycles) After 10 operations, 10 kA rms symmetrical
3. Short Time & Fault Closure at 17 s (10 cycles) 10 kA rms symmetrical
4. Short Time at 3 s 3.5 kA rms symmetrical

## 10. Inspection

The acceptance of any equipment/material shall in no way relieve the vendor from his responsibility to meet all the requirements of this specification, and it would not prevent subsequent rejection if such equipment/materials were found later to be defective.

## 11. Proposal Information

11.1. Submitted proposals must include:

- a. Technical information, tests, and drawings.
- b. Table of Compliance completed by the bidder with reference (see Appendix 1).

## 12. Table 1: Warehouse and Asset Suite Identification Number

| Warehouse Catalog # | Asset Suite # | Type      | Class | Amp Capacity | Units / Package | Compatible Manufacturer & Model                            |
|---------------------|---------------|-----------|-------|--------------|-----------------|--|
| 038-01008           | 55170         | Loadbreak | 15 kV | 200          | 1               | Elastimold (1602A3R)<br>EATON (LFI215)<br>Hubbell (215FTI) |

— End of Specification —



## Appendix



## Appendix 1: Table of Compliance

| Line | Description   | Pass/Fail<br>(P / F) | Comments |
|------|---|----------------------|----------|
| 1    | Complies with the specification document 4350.100.  |                      |          |
| 2    | Industry Standards: IEEE (386, C62.11)  |                      |          |
| 3    | Tech. info., tests & drawings provided.   |                      |          |
| 4    | Loadbreak Feedthru  |                      |          |
| 5    | Suitable to fit 15 kV, 200 A loadbreak or deadbreak components in a standard transformer. |                      |          |
| 6    | Rubber or EPDM, fully shielded body.  |                      |          |
| 7    | 15 kV Class, 200 A, 95 kVBIL  |                      |          |
| 8    | AC 60Hz 1 min withstand: 34kV   |                      |          |
| 9    | Min Corona Voltage: 11kV  |                      |          |
| 10   | 10 Switching Operations at 14.4kV & 200A  |                      |          |
| 11   | Short Time & Fault Closure for 0.17s (10 cycles): 10kA rms symmetrical                    |                      |          |
| 12   | Short Time at 3s: 3.5kA rms symmetrical   |                      |          |
| 13   | Info. to be permanently marked in the body as per Section 9.5.                            |                      |          |

**NOTE: This table is only a checklist for reference. The compliance shall be with the complete document. Marking a PASS in the table won't be accepted as a compliance without the technical information required to certify it.**











# 4350.100 Load-Break Feed-Thru Insert 15kV (9-12-24)

Final Audit Report

2024-09-12

|                 |  |
|-----------------|--|
| Created:        | 2024-09-12                                   |
| By:             | Miguel Rios (miguel.rioslopez@lumapr.com)    |
| Status:         | Signed                                       |
| Transaction ID: | CBJCHBCAABAAy6K-WyOL6592D6UyWuCrq0kdsM6hElqr |

## "4350.100 Load-Break Feed-Thru Insert 15kV (9-12-24)" History

-  Document created by Miguel Rios (miguel.rioslopez@lumapr.com)  
2024-09-12 - 7:59:49 PM GMT
-  Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature  
2024-09-12 - 7:59:56 PM GMT
-  Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com)  
E-signature obtained using URL retrieved through the Adobe Acrobat Sign API  
Signature Date: 2024-09-12 - 8:00:18 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature  
2024-09-12 - 8:00:19 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
2024-09-12 - 8:00:38 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
Signature Date: 2024-09-12 - 8:02:00 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature  
2024-09-12 - 8:02:02 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)  
2024-09-12 - 8:20:43 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)  
Signature Date: 2024-09-12 - 8:20:52 PM GMT - Time Source: server
-  Agreement completed.  
2024-09-12 - 8:20:52 PM GMT