



Document Title:  
**Lightning Arrester Mounting Brackets**

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Department  
**Distribution**

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**Version History**

Version	Date	Revision Comments
01	Jun. 15, 2023	Initial release for Items 002-84914 and 002-84983.
02	Jul. 11, 2023	Revision of material 002-84914 and creation of new material code 002-84983.
03	Dec. 20, 2024	General format modifications, TOC updated, Sections 3, 4 & 8 modified. Sections 4 and 5 order rearranged. Description for Item 002-84983 modified.



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## Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
002-84914	84914	3	12/20/2024
002-84983	84983	2	12/20/2024



## 1. Introduction

This is a general specification that covers the minimum requirements for lightning arrester mounting brackets 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 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 manufacturer and model see Table 1. These models are examples of the equipment/material described in this document and do not represent a preference. LUMA will evaluate equally any model not listed here during any acquisition event.

## 5. Markings

- 5.1. Containers or pallets shall be marked outside with LUMA Energy's purchase order and warehouse catalog number.
- 5.2. Individual package(s) shall be clearly marked with manufacturer name 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: One (1) unit per package 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. ASTM A153: For hot dip galvanized coating process.

8.4. If any other standards 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. Used for lightning arresters' installations on transformers and crossarms in the distribution system.

9.2. Lightning Arrester Mounting Bracket for Transformer

a. Transformer mounting bracket to be used with surge arresters for installation in pole-type transformers.

b. Material of bracket shall be steel with a hot dip galvanized coating, as per ASTM A-153.

c. The bracket shall be manufactured with a hole at the top, for the arrester installation, suitable for a 1/2" (1.3 cm) diameter carriage bolt. It shall be furnished with one (1) 1/2" x 2" (1.3 x 5.1 cm) carriage bolt, one (1) 1/2" (1.3 cm) split lock washer, one (1) 1/2" (1.3 cm) tooth lock washer, and one (1) 1/2" (1.3 cm) nut.

d. The bracket shall be manufactured with two slots, for installation at the transformer, measuring 9/16" (1.4 cm) diameter by 2-1/4" (5.7 cm) length. The slots shall be placed in such a way so there will be a 2.5" (6.4 cm) spacing center-to-center at any position of the slots. It shall provide two (2) hex tank lug bolts, two (2) lock washers, and two (2) round washers held captive with push-nuts. All of them rated for a 1/2" (1.3 cm) diameter bolt.

- e. Minimum dimensions:
  - 1. Length: 8.7" (22.1 cm)
  - 2. Width: 1.25" (3.2 cm)
  - 3. Thickness: 0.25" (1.3 cm)
  - 4. Offset from wall to apparatus mounting: 2.4" (6.1 cm)
- f. The bracket shall include a copper grounding strap with minimum dimensions as follow: 15" L x 1" W x 0.025" T (38.1 x 2.5 x 0.06 cm).

### 9.3. Lightning Arrester Mounting Bracket for Crossarm

- a. Crossarm mounting bracket to be used for mounting lightning arresters to crossarms.
- b. Shall adjust to fit crossarms from 3" to 4" x 4" to 5" (7.6 to 10.2 x 10.2 to 12.7) cm.
- c. Material of bracket shall be steel with a hot dip galvanized coating, as per ASTM A-153.
- d. The bracket shall be an L-shaped form, NEMA-Extended type. On the vertical side, shall be furnished with four (4) 7/16" (1.1 cm) overlapping square holes on the top and one (1) 7/16" square hole on the bottom, spaced 4-1/2" (11.4 cm) minimum length from the lowest of the top square holes. Additionally, there shall be a 11/16" (1.7 cm) round hole near the middle of the long side of the bracket.
- e. On the horizontal side, the bracket shall be furnished with a 1/2" (1.3 cm) carriage bolt, washers, and nut on a hole spaced 5.1" (13 cm) minimum length from the outer vertical side to the hole center.
- f. Shall include a backstrap with four (4) 7/16" (1.1 cm) overlapping square holes on the top and one (1) 7/16" square hole on the bottom, spaced 4-1/2" (11.4 cm), center to center, from the lowest of the top square holes and the bottom square hole.
- g. Minimum dimensions:
  - 1. Vertical Length (L): 8" (20.3 cm)
  - 2. Horizontal Length (L): 5.1" (13 cm)
  - 3. Thickness (T): 0.37" (1 cm)
  - 4. Width (W): 1.75" (4.4 cm)
  - 5. Back Strap (L x W x T): 7" x 1.25" x 0.25" (17.8 x 3.2 x 0.6 cm)
- h. Shall include the following hardware:
  - 1. One (1) 1/2"x 2" (1.3 x 5.1 cm) carriage bolt
  - 2. One (1) 1/2" (1.3 cm) spring lock washer
  - 3. One (1) 1/2" (1.3 cm) extended teeth lock washer



4. One (1) 1/2" (1.3 cm) hex nut
5. Two (2) 3/8" x 6" (1 x 15.2 cm) minimum length carriage bolts with washer and nut used for back strap mounting.

## 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 #	Mounting Type (Use)	Compatible Manufacturer & Model
002-84914	84914	Transformer Mount (with CU Grounding Strap)	MacLean (U35935D14H) Eaton (AM15A1) Hubbell -
002-84983	84983	Crossarm Mount (NEMA-Extended)	MacLean - Hubbell (PSC2060828)

— End of Specification —



## Appendix

### Appendix 1: Table of Compliance – Mounting Bracket for Transformer

Line	Description	Pass/Fail (P/F)	Comments
1	Complies with the specification document 4350.318.		
2	Industry Standards: ASTM A153		
3	Tech. info. and drawings provided.		
4	HDG Steel		
5	Top hole suitable for 1/2" carriage bolt.		
6	Two Bottom Slots: 9/16" $\phi$ x 2.25 L"		
7	Bracket dimensions as per Section 9.2.e.		
8	Included hardware as per Sections 9.2.c and 9.2.d.		
9	CU Grounding Strap included: 15" x 1" x 0.025"		

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

### Appendix 2: Table of Compliance – Mounting Bracket for Crossarm

Line	Description	Pass/Fail (P/F)	Comments
1	Complies with the specification document 4350.318.		
2	Industry Standards: ASTM A153		
3	Tech. info. and drawings provided.		
4	HDG Steel		
5	NEMA-Extended Type		
6	L-shaped with holes as required in Sections 9.3.d and 9.3.e.		
7	Backstrap with holes as specified in Section 9.3.f.		
8	Dimensions as per Section 9.3.g.		
9	Included hardware as per Sections 9.3.h.		

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











# 4350.318 Lightning Arrester Mounting Bracket (12-20-24)

Final Audit Report

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