



Document Title:

Zero-Degree, Three-Phase, Double Position, Standoff Equipment Bracket

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Engineering Type

Equipment Specificati

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4350.020

Department

Distribution

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Version History

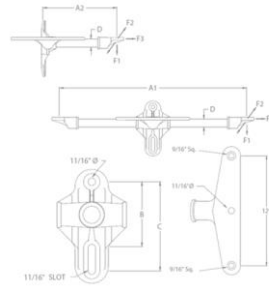
Version	Date	Revision Comments
1	Oct. 29, 2021	Initial Release.
2	Nov. 09, 2021	General format correction
3	Feb. 17, 2022	General format correction to Section 3, 4, and 7.
4	Apr. 13, 2022	Table of compliance added.
5	Jun. 30, 2022	Signature format modified. Revision of suggested models due to revision of spec.
6	Nov. 28, 2022	Section 9 modified. Signature format modified.
7	Jun. 25, 2024	Format corrections, TOC update, Section 4 modified and sections order rearranged.
8	Jul. 02, 2024	Section 8 updated.
9	Jul. 17, 2024	Engineers license number was added



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Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
008-82333	82333	8	7/17/2024



1. Introduction

This is a general specification that covers the minimum requirements for a three-phase, double position, standoff equipment bracket 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

Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature may include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. Failure to submit documents on time will cause bidder disqualification. If required by LUMA, final drawings 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 shall be marked outside with LUMA Energy's purchase order and item number.
- 5.2. 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: Three (3) units per box or as requested by LUMA.

8. Acceptance Criteria

- 8.1. Test required: certified by external qualified 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 galvanizing.
 - b. ASTM (D149, D150, D256, D495, D570, D638, D695, D792, D2583): for rod tests.
 - c. ANSI (C29.11, C29.12): for protective coating tests.
 - d. IEC (61109, 62217, TR-62039): for protective coating tests.
- 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. Zero-degree, three-phase, double position, standoff equipment bracket used for configuration and mounting of arresters and cutouts.
 - a. Features: Accepts 5/8" (1.6 cm) mounting hardware on 11/16" (1.8 cm) holes.
 - b. Hardware shall be steel, grade A36 with hot dip galvanized per ASTM (A153). The following hardware should be included as minimum:
 1. Six carriage type bolts: 1/2" X 2" (1.3 X 5.1 cm). Each bolt with one 1/2" hex nut, one 1/2" lock washer, and one 1/2" flat washer (1/2" = 1.3 cm).
 2. Three 5/8" X 2" (1.6 X 5.1 cm) bolts: Each bolt with one 5/8" hex nut, one 5/8" lock washer, and two 5/8" flat washer (5/8" = 1.6 cm).
 - c. Rod material: 1.5" (3.81 cm) diameter (D), fiberglass, gray, and ultraviolet (UV) silicone protective coating.
 - d. Tab retainers: For banding provisions.
 - e. Weight: Not more than 25 lbs (11.3 kg).

f. Total Length (A1): 48" (121.9 cm), A2 = 24" (61.0 cm). See figure 0.

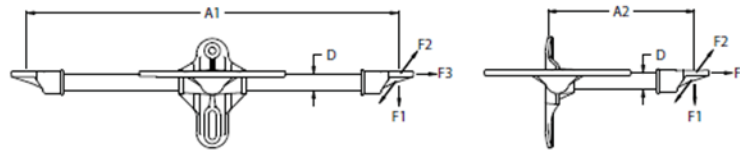


Figure 0

9.2. Base:

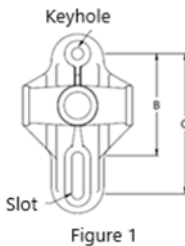


Figure 1

- a. Aluminum (A356-T6), 12" (30.5 cm) minimum long with bandable feature.
- b. Keyhole of installation: 11/16" (1.8 cm) on top.
- c. Slot at the bottom: 11/16" X 2-3/4" (1.8 X 6.98 cm).
- d. Distance from top hole to B and C points in the slot: 6" or 8" (15.2 or 20.3 cm) and 8" or 10" (20.3 or 25.4 cm) respectively. See figure 1.

9.3. Optional Base:

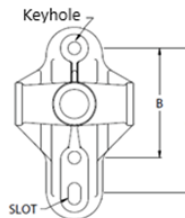


Figure 2

Same as the one offering on each compatible model above but will have a 11/16" keyhole on top, a second 11/16" hole (B) at 8" from the keyhole, and a 11/16" X 1-1/2" slot (C) on the bottom at 12" from the keyhole. Each distance is taken center to center as shown in figure 2.

9.4. End Fitting:

- a. Aluminum (A356-T6).
- b. Shall have two square holes of 9/16" (1.4 cm), one at the top and one at the bottom, separated by 12" (30.5 cm) from each other.
- c. Shall have one hole of 11/16" (1.8 cm) at the center.
- d. The three arms for the end fittings could be accepted with 15° as shown below.

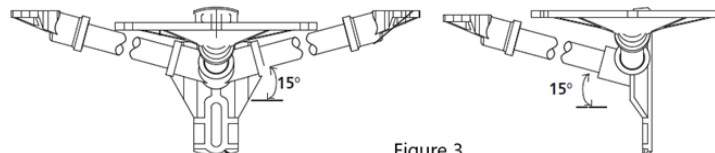


Figure 3



9.5. Minimum Ultimate Loads:

- a. Vertical 900 lbs (408.2 kg).
- b. Longitudinal 700 lbs (317.5 kg).
- c. Transverse 10,000 lbs (4,535.9 kg).

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.
- b. Table of Compliance completed by the bidder with reference (see Appendix 1).

12. Table 1: Warehouse and Asset Suite Identification Number

Description	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer & Model
Zero-Degree, Three-Phase, Double Position, Standoff Equipment Bracket	008-82333	82333	MacLean (G3MA054824ADBC).
			Hubbell (3SBM4824AMTBSC).

— End of Specification —



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Appendix



Appendix 1: Table of Compliance

Line	Description	Pass/Fail (P / F)	Comments
1	The Proponent complies with the corresponding specification document 4350.020.		
2	The Proponent complies with the industry standards established in the specification document (ANSI, ASTM & IEEE).		
3	Tech. info., tests & drawings provided.		
4	<ul style="list-style-type: none">• Vertical: 900 lbs• Longitudinal: 700 lbs• Transverse: 10,000 lbf		
5	<ul style="list-style-type: none">• Rods: Fiber glass (1.5 in. diameter) with UV silicone protection.• Base and End Fittings: Aluminum (A356-T6)• Hardware: Hot dip galvanized steel (grade A36) as per ASTM A153.		
6	<ul style="list-style-type: none">• Each rod overall length (A2): 24"• Rods from side-to-side length (A1): 48"• End fitting length: 12" with one 9/16" square hole on each corner and one 11/16" hole in the middle. See document 4350.020 for drawings.		
7	<ul style="list-style-type: none">• Six carriage type bolts (1/2" x 2")• Six hex nuts (1/2")• Six flat washers (1/2")• Six lock washers (1/2")• Three bolts (5/8" x 2")• Three hex nuts (5/8")• Six flat washers (5/8")• Three lock washers (5/8")		
8	Keyhole on top (11/16") and a slot at the bottom (11/16 x 2-3/4") to provide 6" or 8" from top hole to slot top and 8" or 10" from top hole to slot bottom. All measurements from center to center.		
9	Similar arrangement as above but the measures between holes shall be 8" and 12", respectively. See figure 2 of the document.		

NOTE: This table is only a check list 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.











4350.020 Three-Phase, Zero-Degree Standoff Equipment Bracket v9 (July 2024)

Final Audit Report

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