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SM-5 Fuse Mounting

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Distribution

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Related/Referenced Documents

N/A

Version History

Version	Date	Revision Comments
1	Dec. 22, 2021	PREPA to LUMA format
2	Sep. 10, 2024	General format modifications, TOC created, Section 4 modified, and sections order rearranged.



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
010-08036	54478	4	09/10/2024



1. Introduction

This specification describes the minimum requirements for the SM-5 fuse mounting 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 (O11) 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)

7.1. One (1) unit per box or as requested by LUMA Energy.

7.2. One (1) unit weight 60 Lbs. (27 kg)

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 C37.41 – Standard design tests for high-voltage (>1000 V) fuses and accessories

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. S & C SM-5 outdoor fuse mounting for 14.4 – 17.0 KV, 400 A, disconnect, 180° opening, vertical style with cycloaliphatic epoxy resin (Cypoxy) station post insulator.

9.2. This unit are especially suited for protecting transformers, capacitor banks, and cables in outdoor distribution substations.

9.3. Unit must include live parts excluding fuse holder and connectors.

9.4. SM-5 fuse mounting shall have:

a. Silver clad copper upper and lower mounting contacts.

b. Bifurcated mounting contacts to provide four-point contact at each ferrule and backed up by a 1/4 in (6.35 mm) thick galvanized steel yoke and stainless steel loading springs to ensure minimum electrical resistance at current-transfer points.

c. Stainless steel fuse-holder latch with galvanized steel stop to provide positive, secure engagement of holder.

d. Bronze two hole terminal pads.

e. Cast bronze hinge with broad guiding surfaces on inner faces to provide positive self-guiding action for holder during opening and closing.

f. Galvanized formed steel channel base 3/16 in (4.76 mm) thick.



- 9.5. Nominal operating voltage: 14.4 KV
- 9.6. Maximum Interrupting Current (symmetrical): 34,000 A.
- 9.7. Basic Insulation Level (BIL): 110 KV

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 #	Asset Suite #	Type of Material/Equipment	Compatible Manufacturer	Compatible Model
010-08036	54478	SM-5 Fuse Mounting	S&C	190602R2-E

— End of Specification —



Appendix

Appendix 1: Table of Compliance

Line	Criteria	Description	Pass/Fail (P/F)	Comments
1	Specification	The Proponent complies with the corresponding specification document 4350.134.		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (IEEE)		
3	Type	SM-5 Fuse Mounting		
4	Electrical Requirements	<ul style="list-style-type: none"> Nominal operating voltage: 14.4 KV Maximum Interrupting Current (symmetrical): 34,000 A. Basic Insulation Level (BIL): 110 KV 		
5	Construction	Silver clad copper upper and lower mounting contacts.		
6		Bifurcated mounting contacts to provide four-point contact at each ferrule and backed up by a 1/4 in (6.35 mm) thick galvanized steel yoke and stainless steel loading springs to ensure minimum electrical resistance at current-transfer points.		
7		Stainless steel fuse-holder latch with galvanized steel stop to provide positive, secure engagement of holder		
8		Bronze two hole terminal pads.		
9		Cast bronze hinge with broad guiding surfaces on inner faces to provide positive self-guiding action for holder during opening and closing.		
10		Galvanized formed steel channel base 3/16 in (4.76 mm) thick.		

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.











4350.146 SM 5 fuse mounting (09-10-2024)

Final Audit Report

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