



Document Title:

Parking Stand Arrester 3kV, 6kV & 10kV for 15kV Class, MOV

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Material Specification

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Related/Referenced Documents

N/A

Version History

Version	Date	Revision Comments
01	May. 10, 2022	Modified from PREPA to LUMA format.
02	Jul. 16, 2024	General format modifications. EATON models added as reference.



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
004-00366	54005	02	07/16/2024
004-00382	54007	02	07/16/2024
004-00333	54002	02	07/16/2024



1. Introduction

This is a general specification that covers the minimum requirements for the parking stand surge arrester 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 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 manufacturers and models, see Table 2. These models are examples of the equipment/material 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. 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 box or as requested by LUMA.

8. Acceptance Criteria

- 8.1. Test required: certified by external qualified laboratories.
 - a. High Current Short Duration: Two (2) discharges of 40 kA crest.
 - b. Low Current Long Duration: Twenty (20) surges of 75 A / 2,000 microsecond duration.
 - c. Duty Cycle Test: Twenty-two (22) operations of 5 kA crest / 8 x 20 microsecond duration while energized at 3 kV (for item 004-00366), 6 kV (for item 004-00382), and 10 kV (for item 004-00333) for the initial 20 operations and 2.55 kV (for item 004-00366), 5.1 kV (for item 004-00382), and 8.4 kV (for item 004-00333) for the final two (2) operations.
- 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 386-2016: For separable insulated connector systems for power distribution systems rated 2.5 kV through 35 kV.
 - b. IEEE C62.11: For metal-oxide surge arresters for ac power circuits (>1 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. Parking stand surge arrester, Metal Oxide Varistor (MOV), is used to provide high-voltage lightning and switching surge protection of transformers, cable, equipment, and other components typically located on underground 15 kV power distribution systems.
- 9.2. Housing shall be made of rubber or ethylene propylene diene terpolymer (EPDM).
- 9.3. The eye bolt and mounting bracket shall be made of stainless steel.
- 9.4. Shall be an insulated, fully shielded, fully submersible, dead front device in an elbow configuration to be used on effectively ground 60 Hz systems.
- 9.5. A 36" (91.44 cm) #4 AWG ground lead shall be provided with each unit.

- 9.6. The parking connector interface shall fit standard 15 kV transformers.
- 9.7. Shall be suitable to fit 15 kV, 200 A loadbreak or deadbreak components in a standard transformer and conforming to ANSI/IEEE 386.
- 9.8. The arrester shall be applied with a maximum continuous operating voltage (MCOV) of 2.55 kV for the 3 kV rating, 5.1 kV for the 6 kV rating, and 8.4 kV for the 10 kV rating in coordination with overhead arresters to prevent voltage wave doubling in the underground system.
- 9.9. Shall be compact design to fit within existing transformer cabinetry.
- 9.10. The following minimum information shall be permanently attached to or made an integral stamped part of the arrester:
 - a. Device name
 - b. Manufacturer’s name and trademark
 - c. Manufacturer type and identification number
 - d. Manufacture date and/or serial number
 - e. Arrester maximum continuous operating voltage (MCOV) and duty cycle rating.
- 9.11. Shall have the following approximate characteristics in compliance with ANSI/IEEE 386 and ANSI/IEEE C62.11:
 - a. Table 1: Protective Characteristics

Max Discharge Voltages Using 5 kA, 8X20µs Current Wave (kV Crest)					
Arrester Rating		1,500A	5,000A	10,000A	20,000A
MOV	MCOV				
3kV	2.55kV	10.7	12.8	13.4	15.7
6kV	5.1kV	21.9	26.2	28.6	34.9
10kV	8.4kV	32.0	36.0	40.0	45.0

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 2: Warehouse and Asset Suite Identification Number

Item (Voltage Rating)	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer & Model
3 kV	004-00366	54005	Elastimold (167PSA-3) EATON (3237686C03M)
6 kV	004-00382	54007	Elastimold (167PSA-6) EATON (3237686C06M)
10 kV	004-00333	54002	Elastimold (167PSA-10) EATON (3237686C10M)

— 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 specification document 4350.237.		
2	The Proponent complies with the industry standards established in the specification document. (ANSI/IEEE)		
3	Parking Stand with Metal Oxide Varistor (MOV).		
4	Housing: Rubber or EPDM		
5	Fully shielded & watertight		
6	Eye bolt and mounting bracket in stainless steel.		
7	Suitable to fit 15 kV, 200 A loadbreak or deadbreak components in a standard transformer.		
8	36" long, #4 AWG ground lead included.		
9	Max. discharge voltage as per Table 1.		
10	004-00366: 3 kV & 2.55 kV		
11	004-00382: 6 kV & 5.1 kV		
12	004-00333: 10 kV & 8.4 kV		

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.










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Final Audit Report

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