



Document Title:  
**Hot Line Clamp**

Document Type:  
**Specification**

Engineering Type  
**Material Specification**

Document No.:  
**4350.097**

Department  
**Distribution**

Version:  
**05**

Effective Date:  
**Sep 6, 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
1	Dec. 2, 2021	PREPA to LUMA format (072-00330 Rev. 9, 072-00348 Rev. 3)
2	Apr. 14, 2022	TOC and New Signature Format added (072-00330 Rev. 10, 072-00348 Rev. 4)
3	Nov. 11, 2022	Cover Page added, Section 9, 12, and TOC modified. Added Clamp for CU/CU Conductors (072-83812 Rev. 1)
4	Jun. 01, 2023	Numbering correction for the first three paragraphs. General format modifications, including Cover Page. TOC modified.
5	Sep. 6, 2024	General format modifications, TOC updated, Section 4 modified, and sections order rearranged.



## Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
072-00330	22046	13	09/06/2024
072-00348	22047	7	09/06/2024
072-83812	83812	3	09/06/2024



## 1. Introduction

This is a general specification that covers the minimum requirements for hot line clamps 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 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: fifty (50) units per box 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. ANSI/NEMA CC-1 2018: Covers uninsulated connectors and bus supports that are made of metal and intended for use with conductors or bus made of copper or aluminum alloy and found in substations.
  - b. ANSI C119.4-2016: Establishes the electrical and mechanical test requirements for electrical connectors.
  - c. RUS Listed
- 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. Used for copper and aluminum conductors in overhead primary tap connections for the distribution system.
- 9.2. Shall have a side positioned tap connection to prevent corrosion on conductor or clamp on bimetal connection.
- 9.3. Shall provide corrosion free strength and uniformed expansion under loading.
- 9.4. Shall have an inhibitor or grease installed from factory.
- 9.5. Shall be spring loaded to offset tightening torque vibrations.
- 9.6. Shall include an extended jaw to provide excellent conductor contact, reduce joint temperature, and reduce twisting of the conductor during installation.
- 9.7. Conductor run and tap range as per Table 1.
- 9.8. Aluminum to Aluminum/Copper Conductor Clamps



- a. Shall be suitable for aluminum conductors on the Run and aluminum and copper conductors for the Tap.
- b. Approximate weight: 0.6 to 1.0 lbs. (0.27 to 0.45 kg)
- c. Material:
  - 1. Body & Keeper: Aluminum Alloy
  - 2. Eyebolt: Bronze Alloy, Tin Plated
  - 3. Eyestem: Bronze Alloy or Stainless-Steel
  - 4. Eyestem Spring: Stainless-Steel

9.9. Copper to Copper Conductor Clamps

- a. Shall be suitable for copper conductors on the Run and Tap.
- b. Approximate weight: 1.6 lbs. (0.72 kg)
- c. Material:
  - 1. Body & Keeper: Bronze Alloy
  - 2. Eyebolt: Bronze Alloy
  - 3. Eyescrew, Nut, Washers & Rivet: Stainless-Steel

**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 #	Compatible Manufacturer	Compatible Model	Conductor Material & Size Range	
				Run	Tap
072-00330	22046	Hubbell Power System	P1540AGP	ACSR #3/0 (6/1) - 636.0 (30/19)	ACSR #6 (6/1) - 266.8 (26/7), CU #4sol. - 350MCM
		MacLean Power System	C1540AP9		
072-00348	22047	Hubbell Power System	P1530AGP	ACSR #6 (6/1) - 397.5 (18/1)	ACSR #6 (6/1) - 3/0 (6/1), CU #6sol. - 4/0 str.
		MacLean Power System	C1530AP9		
072-83812	83812	Hubbell Power System	P1530CC	CU #6 sol. - 400	CU #6 sol. - 4/0 str.
		MacLean	C15309		

— 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 4350.097.		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (ANSI, NEMA, RUS)		
3	Type	Overhead primary hot line tap clamp		
4	Material	<ul style="list-style-type: none"> <li>• 072-00330 and 072-00348: Tin Plated Aluminum Alloy, Bronze &amp; Stainless-Steel as per Section 9.8.d.</li> <li>• 072-83812: Bronze Alloy &amp; Stainless-Steel as per Section 9.9.</li> </ul>		
5	Product Requirement	<ul style="list-style-type: none"> <li>• Spring Loaded Clamp</li> <li>• Inhibitor or Grease applied from factory</li> <li>• Extended Jaw</li> </ul>		
6	072-00330	Run: ACSR #3/0 (6/1) - 636.0 (30/19) Tap: ACSR #6 (6/1) - 266.8 (26/7), CU #4 sol. - 350 MCM		
7	072-00348	Run: ACSR #6 (6/1) - 397.5 (18/1) Tap: ACSR #6 (6/1) - 3/0 (6/1), CU #6 sol. -4/0 str.		
8	072-83812	Run: CU #6 sol. - 400 MCM Tap: CU #6 sol. - 4/0 str.		

**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.**











# 4350.097 Hot line clamp (09-06-2024)

Final Audit Report

2024-09-06

Created:	2024-09-06
By:	Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAACHPf3O3hiaU7VxBkr8OyZfsdK7UGan30

## "4350.097 Hot line clamp (09-06-2024)" History

-  Document created by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
2024-09-06 - 2:24:46 PM GMT
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature  
2024-09-06 - 2:24:51 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
E-signature obtained using URL retrieved through the Adobe Acrobat Sign API  
Signature Date: 2024-09-06 - 2:26:22 PM GMT - Time Source: server
-  Document emailed to Miguel Rios (miguel.rioslopez@lumapr.com) for signature  
2024-09-06 - 2:26:23 PM GMT
-  Email viewed by Miguel Rios (miguel.rioslopez@lumapr.com)  
2024-09-06 - 2:40:04 PM GMT
-  Document e-signed by Miguel Rios (miguel.rioslopez@lumapr.com)  
Signature Date: 2024-09-06 - 2:42:24 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature  
2024-09-06 - 2:42:27 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)  
2024-09-06 - 3:18:43 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)  
Signature Date: 2024-09-06 - 3:18:57 PM GMT - Time Source: server
-  Agreement completed.  
2024-09-06 - 3:18:57 PM GMT