



Document Title:  
**Electrical underground bus connector & Cable end sleeve**

Document Type: **Specification**      Engineering Type: **Material Specification**      Document No.: **4350.347**

Department  
**Distribution**

Version:  
**01**

Effective Date:  
**Dec 2, 2024**

**Shared document with: N/A**

*\*Select the Departments impacted by the document*

**For others, specify here**

**Author**

Jose R. Torres Irizarry, EIT (14613)  
Engineer 2, Distribution Standards & Materials

Signature and Date

**Dec 2, 2024**

**Reviewer**

Rodolfo A. Flores Ortiz, PE (Lic. 27131)  
Senior Engineer, Distribution Standards & Materials

Signature and Date

**Dec 2, 2024**

**Approver**

Ricardo Castro Gómez, PE (Lic. 12135)  
Manager, Distribution Standards & Materials

Signature and Date

**Dec 2, 2024**

**Management Approval (If apply)**

**Approver**

Name  
Position

Signature and Date

N/A

**Related/Referenced Documents**

N/A

**Version History**

Version	Date	Revision Comments
01	Dec. 2, 2024	Initial release.



Document Title: Electrical underground bus connector  
& Cable end sleeve

Document No.: 4350.347

Department: Distribution

## Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
038-86717	86717	1	Dec. 2, 2024
038-86718	86718	1	Dec. 2, 2024



## 1. Introduction

This is a general specification that covers the electrical underground bus connector & cable end sleeve 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 (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

- 4.1. The electrical underground bus connector and cable end sleeve must be fully compatible with the **ABB Homac** system. This compatibility ensures that the components can function effectively within the existing infrastructure, maintaining reliability and performance standards.
- 4.2. For compatible manufacturers and models, 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 purchase order and item 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)**

7.1. One (1) unit per standard package or as required by LUMA Energy.

7.2. All parts and accessories shall be contained inside the package or box.

## **8. Acceptance Criteria and Test**

8.1. Tests required shall be certified by qualified 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 C119.4: IEEE American National Standard for Electric Connectors.
- b. RUS Accepted
- c. TSCA Toxic Substances Control Act

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. Electrical underground bus connector

- a. Flood seal screw-on transformer connectors with heavy PVC-insulated body to keep out moisture while maintaining high conductivity.
- b. Offset handle design positions cable weight close to tank wall.
- c. Four outlets equipped with 1/2-inch Hex-head bolts with captive Belleville washers accept standard two-hole NEMA aluminum or copper lugs.
- d. Conductors' range between #12 to 500 Kcmil.
- e. For Use with aluminum or copper lugs up to 500 kcmil.

9.2. Cable end sleeve

- a. Flood seal, insulating sleeve for 2-hole outlet connectors.

- b. Type of Material: EPDM Rubber
- c. Wire Type Size: #14 to 500 kcmil
- d. Size up to 10 inch.

## 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

Item	Description	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer	Model
1	Underground bus connector	038-86717	86717	ABB	Homac FTU 1-4N
2	Cable end sleeve	038-86718	86718	ABB	Homac CSN2011

- End of Specification -



Document Title: Electrical underground bus connector  
& Cable end sleeve

Document No.: 4350.347

Department: Distribution

## Appendix



## Appendix 1: Table of Compliance

Line	Description	Pass/Fail (P / F)	Comments
1	Complies with the specification document 4350.347.		
2	Industry Standards: ANSI C119.4, RUS, TSCA		
3	Tech. info., drawings, and tests provided.		
4	<b>Electrical underground bus connector</b>		
6	Heavy PVC-insulated body to keep out moisture.		
7	Offset handle design positions cable weight close to tank wall		
8	Four outlets equipped with 1/2-inch hex-head bolts with captive Belleville washers accept standard one-hole or two-hole NEMA aluminum or copper lugs		
9	Conductors' range between #12 to 500 Kcmil.		
10	<b>Cable end sleeve</b>		
11	Flood seal, insulating sleeve for 2-hole outlet connectors.		
12	Wire type Size: #14 to 500 kcmil		
13	Type of Material: EPDM Rubber		
14	Size up to 10 inch		

**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.**












# 4350.347 Electrical underground bus connector

Final Audit Report

2024-12-02

Created:	2024-12-02
By:	jose torres (JoseR.Torreslrizarr@Lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAWQODRWPCmnr4JQI50vUMBZQfz35kMu_E

## "4350.347 Electrical underground bus connector" History

-  Document created by jose torres (JoseR.Torreslrizarr@Lumapr.com)  
2024-12-02 - 7:22:37 PM GMT
-  Document emailed to jose torres (JoseR.Torreslrizarr@Lumapr.com) for signature  
2024-12-02 - 7:22:44 PM GMT
-  Email viewed by jose torres (JoseR.Torreslrizarr@Lumapr.com)  
2024-12-02 - 7:23:21 PM GMT
-  Document e-signed by jose torres (JoseR.Torreslrizarr@Lumapr.com)  
Signature Date: 2024-12-02 - 7:23:41 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature  
2024-12-02 - 7:23:42 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
2024-12-02 - 7:30:39 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)  
Signature Date: 2024-12-02 - 7:32:20 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature  
2024-12-02 - 7:32:21 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)  
2024-12-02 - 10:35:59 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)  
Signature Date: 2024-12-02 - 10:36:44 PM GMT - Time Source: server
-  Agreement completed.  
2024-12-02 - 10:36:44 PM GMT