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Luminaire's Controller

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N/A

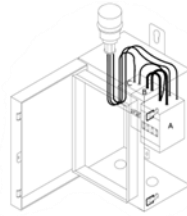
Version History

Version	Date	Revision Comments
1	Apr. 04, 2022	Initial Release
2	Mar. 15, 2023	Format update.
3	Jul. 05, 2024	Format corrections, TOC added, Section 4 modified, and sections order rearranged.
4	Jul. 17,2024	Engineers license number was added



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
030-82824	82824	3	7/17/2024



1. Introduction

This is a general specification that covers the minimum requirements for Luminaire's Controller 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: One (1) Controller with parts and hardware per box or as requested by LUMA Energy.

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: ASTM, ANSI, NEMA & UL listed.
- 8.4. Compliance with LUMA drawing STL-14, included in Appendix 1.
- 8.5. 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. Luminaire's controller to be used in the control of multiple streetlights that are connected in the same circuit. The luminaire's controller consists of a power contactor, a circuit breaker, a fuse with fuse block, a photocontrol receptacle with bracket, and the cabinet. All as per drawing in Appendix 1.
- 9.2. Shall operate at 24,000 W for systems of 240 V and below. All the components shall be compatible among them.
- 9.3. The system shall have a failsafe default mode and default to an "ON" state upon the power or system failure.
- 9.4. The controller shall be supplied fully assembled and with all components properly wired.
- 9.5. Power Contactor Characteristics:
 - a. Category: AC-3
 - b. Operating Current: 95 A
 - c. Operating Voltage: 1,000 V
 - d. Power: 45 kW
 - e. Auxiliary Contacts: 1 NO + 1 NC
 - f. Coil Voltage: 120 V
 - g. Frequency: 60 Hz
 - h. Number of Auxiliary Contacts: 2
 - i. Number of Poles: 3
 - j. UL/CSA listed.

- 9.6. Circuit Breaker Characteristics:
 - a. Current Rating: 100 A
 - b. Voltage Rating: 120/240V AC
 - c. Number of Poles: 2
 - d. Phase: Single
 - e. Operating Temperature: 140°F to 167°F (60°C to 75°C)
 - f. UL/CSA listed.
- 9.7. Fuse and Fuse Block: Works for protection with a fusible link that permanently opens the photocell circuit under an overcurrent condition. Characteristics as follow:
 - a. Current Rating: 20 A
 - b. Voltage Rating: 600 V
 - c. Interrupting Rating: 17,000 A RMS
- 9.8. Photo Control Receptacle with Bracket: The photocell sensors automatically control the street lighting according to the ambient natural lighting level. Characteristics as follow:
 - a. Voltage Range: 0-480 V AC
 - b. Frequency: 60 Hz
 - c. IP Rating: IP65
 - d. Cable: #14 AWG
 - e. Pins: 3 power contacts
 - f. Ambient Temperature: -40°F to 158°F (-40°C to 70°C)
 - g. Contact Material: Copper-nickel plate.
 - h. Bracket Material: Aluminum
 - i. UL/CSA listed and NEMA compliance.
- 9.9. Cabinet Characteristics:
 - a. Material: NEMA 4X stainless steel
 - b. Maximum Dimensions: 16" H X 12" W X 8-1/2" D (40.64 X 30.48 X 21.59 cm)
 - c. Watertight hub 1/2" (1.27 cm) with rubber joint.
 - d. Shall include a latch lock so the cabinet can be closed with a lock.
 - e. The cabinet shall be waterproof.
 - f. Color code: ANSI 61
 - g. UL/CSA listed and NEMA compliance.



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 2).

12. Table 1: Warehouse and Asset Suite Identification Number

Warehouse Catalog #	Asset Suite #	Description	Compatible Manufacturer	Manufacturer Catalog #
030-82824	82824	Power Contactor	Siemens	3RT2046-1AK60
		Breaker	GE	THQL21100
		Photo Control Receptacle with Bracket	-	NEMA JL-200Z

— End of Specification —



Appendix

Appendix 1: Drawing

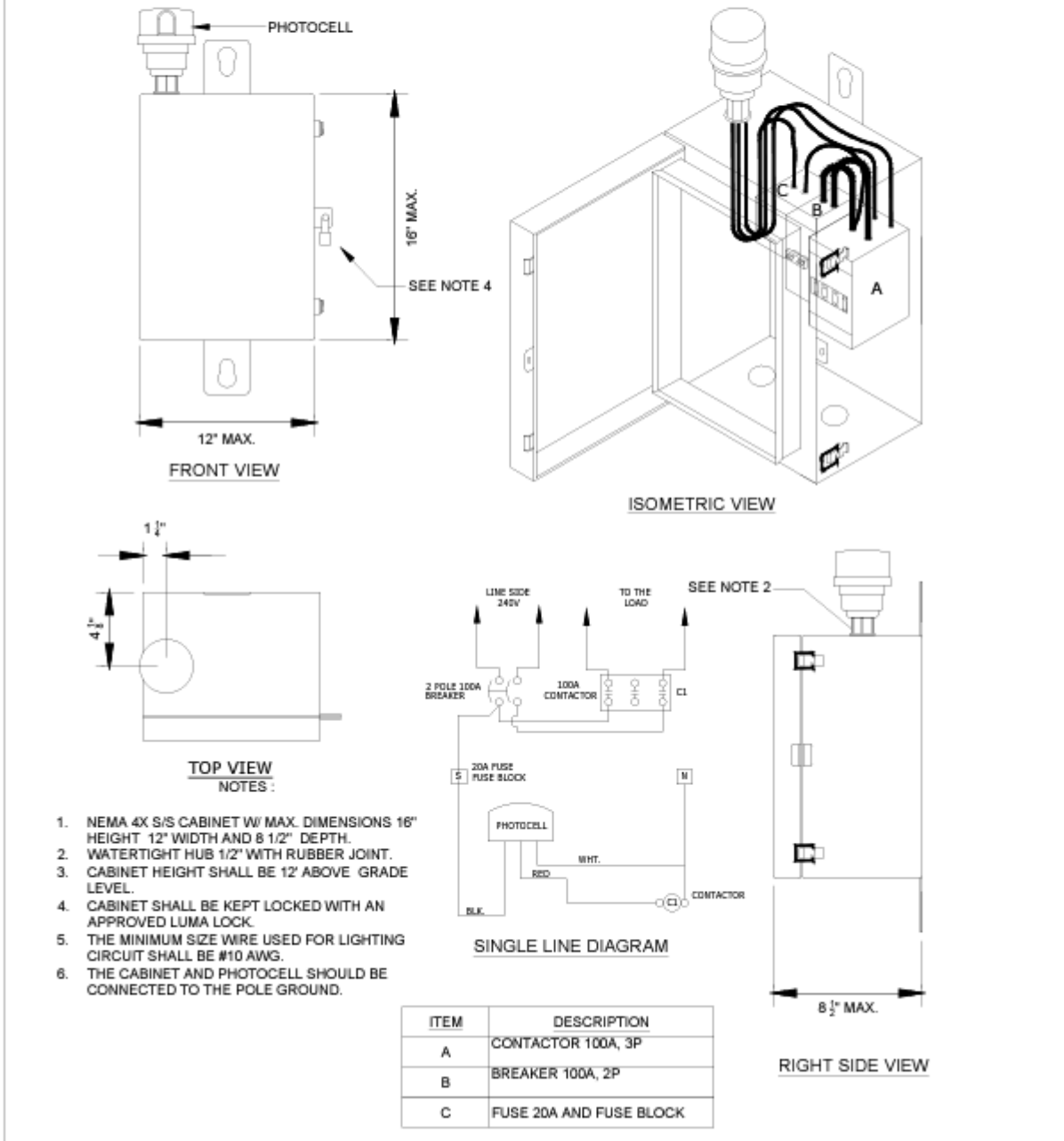


DISTRIBUTION ENGINEERING

STREETLIGHT STANDARDS

TITLE: **LUMINAIRE'S CONTROLLER FOR 24000W 240V AND BELOW**

STANDARD NO. STL-14 VERSION 3
 DOCUMENT NO. 4401.036
 PAGE 1 OF 1 DATE _____
 SUBMITTED MARLENE ORTIZ LIC. 25638 EIT
 REVIEWED ALVIN ROSARIO LIC. 11033
 APPROVED HECTOR R. BENERO LIC. 14995



Appendix 2: Table of Compliance

Line	Description	Pass/Fail (P / F)	Comments
1	The Proponent complies with the corresponding specification document (4350.227).		
2	The Proponent complies with the industry standards established in the specification document (ANSI, ASTM, NEMA & UL).		
3	Tech. info., tests & drawings provided.		
4	Power contactor: <ul style="list-style-type: none"> • Category: AC-3 • Operating Current: 95 A • Operating Voltage: 1,000 V • Power: 45 kW • Auxiliary Contacts: 1 NO + 1 NC • Coil Voltage: 120 V • Frequency: 60 Hz • Number of Auxiliary Contacts: 2 • Number of Poles: 3 • UL/CSA listed. 		
5	Circuit breaker: <ul style="list-style-type: none"> • Current: 100 A • Voltage Rating: 120/240V AC • Number of Poles: 2 • Phase: Single • Operating Temperature: 140°F to 167°F • f. UL/CSA listed 		
6	Fuse and fuse block: <ul style="list-style-type: none"> • Current Rating: 20 A • Voltage Rating: 600 V • Interrupting Rating: 17,000 A RMS 		
7	Photo Control Receptacle with Bracket: <ul style="list-style-type: none"> • Voltage Range: 0-480 V AC • Frequency: 60 Hz • IP65 • Cable: #14 AWG • Pins: 3 power contacts • Ambient Temperature: -40°F to 158°F • Contact Material: Copper-nickel plate • Bracket Material: Aluminum • UL/CSA listed and NEMA compliance 		
8	Cabinet: <ul style="list-style-type: none"> • Material: NEMA 4X Stainless steel • Maximum Dimensions: 16" H X 12" W X 8-1/2" D • Watertight hub 1/2" with rubber joint • With a latch lock so the cabinet can be closed with a lock. • Waterproof • Color code: ANSI 61 • UL/CSA listed and NEMA compliance 		

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.












4350.227 Luminaire's Controller(July 2024)

Final Audit Report

2024-07-17

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